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RECENT STUDIES ON THE VITAMIN CONTENT OF MEATS AND MEAT PRODUCTS[1]

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THE early work of the Dutch physicians in Java at the turn of the last century clearly showed the presence of something in rice polishings which was essential for the prevention of beriberi. Further work along this and related lines brought forth the concept of vitamins or accessory food factors. Early in this work it was realized that there were at least two kinds of vitamins: one soluble in fat solvents; the other, soluble in water. The latter received the name vitamin B and for a number of years it was believed to be the only water soluble vitamin. With the work of Smith and Hendrick in 1926, it was clearly shown that there were at least two vitamins in this group, one which prevented polyneuritis and another which promoted growth. Since then additional vitamins have been added to this group on the basis of their solubility in water. The number of these vitamins and their obscure relations to each other have truly justified the term vitamin B complex. Most nutrition workers today recognize at least six members of this group; namely, vitamin B_1, riboflavin, nicotinic acid or the pellagra-preventive factor, the chick antidermatitis factor or pantothenic acid, factor W, and vitamin B_6 or the rat antidermatitis factor. In this discussion we are going to consider the properties and distribution of the first five members of this group in meats and meat products.

A survey of the literature on the vitamin B_1 content of meats and meat products shows a marked neglect of this important constituent of the human diet and where it has received any study, the work has frequently been confused by other complicating deficiencies. All of the studies up to within the past year or so have of necessity been made by biological assays. The animals used in these assays have been fed basal rations which were deficient in more than vitamin B_1 with the consequent result that the previous values have not been accurate indications of the vitamin B_1 content of the test material. The work in our laboratory has eliminated this

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difficulty by the use of a ration complete in all respects except for vitamin B_1. When a very small amount of the synthetically prepared vitamin is added to this ration our rats show a normal increase in weight.

Another difficulty with much of the older work has been the lack of precautions used in the preparation of the material for assay purposes. The antineuritic vitamin is very labile to heat, especially in the presence of moisture, and when the heating is continued for too long a time or at too high a temperature, the vitamin is destroyed. To overcome this possibility, we have prepared our meats by a special process which obviates the destruction of this vitamin. All of our samples have been secured from the abattoir within one or two days after the animal was slaughtered. During this time, the meat was kept under refrigeration. As soon as it arrived on the campus, the lean meat was separated from the excess fat because we know that the water soluble vitamins are associated mainly with the non-fat portions of the tissues. After the meat was finely ground, one-half of the first three samples was dried in a current of air maintained at a temperature below 60°C. The remainder of these samples was placed in a covered container and stored in a freezing chamber. In our biological assays, both the fresh and the dried materials were assayed simultaneously at equivalent levels. The results of this work definitely showed that there was no destruction of the vitamin as a result of our method of preparing the tissue.

All of these assays have been made on rats receiving our basal vitamin B_1 deficient ration plus varying levels of tissue. In order to calculate the content of vitamin B_1 in the tissue, we have always kept one group of animals in each series on a known amount of crystalline vitamin B_1. The growth increase of this standard control group when compared with that of the test group has been the basis for computing the potency of our samples in the antineuritic vitamin.

The results which we have secured have been summarized in table 1. This shows the very high concentration of the vitamin in pork muscle. Different samples of pork ham have varied from 10 to 26 International Units (I.U.) per gram of dried tissue. Since most of these tissues contain approximately 70 per cent moisture, this means that there are between 3 and 8 I.U. in each gram of fresh ham. Pork loin is an equally good source of this vitamin as shown by the fact that it contains 13 to 27 I.U. per gram of dried material. The marked variation in the potency of these tissues as well as their exceedingly high concentration of vitamin B_1 is at present unexplainable. Even after these meats have been processed commercially, they are still good sources of the antineuritic vitamin. Smoked and boiled ham as well as a commercial brand of ham prepared for immediate serving contained from 8.5 to 12 I.U. per gram. We cannot state the exact amount of the vitamin destroyed by these commercial methods of preparation because we did not have samples of the original untreated meat available for comparative purposes. Such studies are now in progress. These high values are not artefacts due to the sparing action of fats

TABLE 1

The distribution of the water soluble vitamins in meats and meat products

(All values are on the basis of one gram of dried tissue)

MEAT	PROCESS	B_1—I.U.	CHICK ANTI-DERMATITIS FACTOR, %	FACTOR W, %	RIBO-FLAVIN, γ	NICOTINIC ACID, γ
Beef brain	Dried	2.7	5	10	13	300–470
Beef heart	"	10	5	5	37	300
Beef heart	Stewed	4.5	7.5	10–15	20–22	
Beef kidney	Dried	5	2	2	100–120	
Beef kidney	Stewed	3	5	4	100–105	
Beef liver	Dried	4–5.2	2	1–2	125	
Beef liver	Fried	4	2	2–4		
Beef pancreas	Dried	3.3	20	10		
Beef round	Dried	3	30	15–20	11–15	150
Beef round	Broiled	1.5		20–30		
Beef round	Fried	3		20–30	13	
Beef round	Roasted	1.3		20–25		
Beef spleen	Dried	2.5	10–15	5	18	
Veal leg	"	1.6–6	25–35			500
Veal liver	Dried	1.7–6	2	4	100	880
Lamb leg	"	4	30	10	11	
Lamb liver	Dried	4		2		1200–1300
Pork ham	"	10–26	30–40	5–10	12–14	360–400
Pork ham	Fried	20		20	15	
Smoked ham	Dried	11	20	10–20	3–8	
Smoked ham	Fried	9.5		10–20		
Pork heart	Dried	8		5		300
Pork kidney	Dried	8	2	2–4	90	800–1000
Pork liver	"	5–5.3	2–4	2–4		1100
Pork loin	Dried	13–27	20–30	15	9	450–600
Poultry, dark	"	2.5–3			17	
Poultry, light	Dried	1–1.8			3	

1γ = 1 microgram = 0.001 mg.

upon the vitamin B_1 requirement of rats. This has been definitely ruled out among other ways by using the chick and bacteriological assay technics. Both of

these methods confirmed our high values for pork.

The muscles from other animals contain approximately one-eighth the amount of vitamin B_1 found in pork. Beef round contained 3 I.U. per gram of dried tissue and two samples of leg of lamb contained 4 I.U. per gram. Three samples of leg of veal secured on different occasions varied from 1.6 to 6 I.U. per gram. In spite of the marked contrast in the vitamin B_1 content of pork muscle and other meats, the livers from these animals were fairly uniform in their vitamin content. The livers of calves, steers, lambs and hogs contained from 1.7 to 6 I.U. per gram with most of these close to 4 I.U. The hearts from hogs and steers are another good source of this vitamin; in these cases there were from 8 to 10 I.U. per gram.

A number of experiments have been made in order to determine the destruction of this vitamin effected by the ordinary household cooking methods. To do this, we secured a large cut of the meat and saved a part of the uncooked sample as a check on the original vitamin B_1 content. The meats were cooked and then prepared for assay according to our previously described procedure. Both the cooked and uncooked meats were assayed at the same time by the rat growth method. From the difference in the vitamin B_1 content of these samples, the amount of vitamin destruction was calculated. These results indicate that the stability of vitamin B_1 in meats during cooking depends to a certain extent upon the method of cooking. Frying apparently produced the least change in the antineuritic vitamin as shown by the almost complete preservation of the vitamin in fried beef round and fried pork ham. When smoked ham was fried some 10 per cent of the vitamin was destroyed. This was increased to 35 per cent in the case of pork loin and 45 per cent in veal chops. Roasting, broiling, baking and stewing produced a destruction of the vitamin approaching 50 to 60 per cent. The greater decrease in the vitamin content produced by these methods of preparation is associated possibly with the longer time and higher temperature used in cooking.

The application of these studies to human dietetics requires little elaboration, but it may be well to indicate some of the more significant implications. Recent investigations on the vitamin B_1 content of our daily foods have shown that most of these substances contain from 0.5 to 2.0 I.U. per gram. Our work shows that meats are above the average in this respect and compare favorably with many foods which are ordinarily considered potent sources of this vitamin. A few years ago, one worker, after an extended series of assays, stated that different samples of whole wheat contained from 2.3 to 3.4 I.U. of vitamin B_1 per gram while our values for meats show them to contain 2 or more I.U. per gram. Pork muscle contains approximately the same amount of this vitamin as does baker's yeast which has been looked upon as one of the richest natural sources of the antineuritic vitamin. An analysis of the average American diet indicates that meats supply not less than 150 I.U. of vitamin B_1 per day. The daily human requirement has been placed at 200 to 500 I.U of vitamin B_1; therefore meats are capable of supplying one-third or more of the human vitamin B_1 needs. When

meat such as pork is used, the proportion of the day's requirement thus supplied is correspondingly increased. A pork chop even when fried may supply the total daily requirement. An ordinary pork chop contains approximately 25 gm. of dried meat. Our sample of fried pork loin contained 13 I.U. of vitamin B_1 per gram which means that there may be 325 I.U. of vitamin B_1 in a pork chop ready for serving.

The second member of the vitamin B complex that we wish to consider is factor W. The existence of this substance was reported in 1936 by Elvehjem, Koehn and Oleson. They found that rats on a highly purified ration containing all of the then known vitamins did not grow unless a liver extract fraction was added. The original preparation of a fairly active factor W concentrate was made by precipitating a solution of liver extract with alcohol and ether, hence its original name—alcohol-ether precipitate factor. This substance was found to be quite labile to heat for the original liver extract was completely inactive after autoclaving for 6 hours at 15 lb. pressure.

In our work on the distribution of factor W in meats and meat products, we have used a ration very similar to that of the original investigators. The only evidence of a deficiency of this factor is a lack of growth in the rats and this has been the basis of our assay method. We have varied the level of tissue added to the basal ration until we secured the minimal level which would produce a definite increase in the weight of our rats over the six-weeks experimental period. The levels required to do this are listed in the table. From this it can be seen that the liver and kidneys of the various animals studied are a particularly rich source of this growth factor. Again, as in the case of vitamin B_1, these two organs were remarkably uniform in their content of factor W in spite of a slight variation in the content of this factor in the muscles of the same animals. Beef heart, beef spleen and pork heart were also very good sources of factor W. The muscle tissues showed some variation in potency with pork ham producing the desired increase in weight when fed at the lowest level, followed in decreasing order of potency by leg of lamb, beef muscle and veal hindquarter. Beef brain and beef pancreas were fair sources of factor W.

Our work indicates that this growth factor is rather labile to the ordinary household cooking processes. Frying in this case appears to produce a greater destruction than in the studies on vitamin B_1. This method of cooking had the least influence on the vitamin B_1 in these tissues and in some cases it produced no detectable destruction. In these studies, the destruction of factor W produced by frying was considerable in all cases. The level of pork ham after frying had to be increased three times before it produced the same growth response as the uncooked material. In the case of smoked ham and beef round, the levels of the tissue had to be doubled after frying in order to produce the desired growth increase. Broiling in the one sample studied, did not produce as great a destruction as frying. The stewed beef heart showed a lability of the vitamin comparable to that in the fried pork ham.

The chick antidermatitis factor was first discovered by Norris and co-workers

in 1929. They noted this syndrome of scaliness around the beak and on the feet of their animals which were kept on a purified ration. A great deal of work has been done on this condition in our laboratory where it was demonstrated in 1933 that the same condition could be produced in chicks fed a natural grain ration heated to 120°C. for 30 hours. Just recently it was found that this factor is very likely pantothenic acid, a necessary growth factor for certain strains of yeast and perhaps for some bacteria. This syndrome must be distinguished from a somewhat similar condition which develops in chicks fed a large amount of dried raw egg white.

In assaying our meats for the chick antidermatitis factor, we have used the heated ration developed for this work and have added thereto, various levels of the products to be assayed in an effort to secure the minimal level which prevented the occurrence of dermatitis in all the chicks in the group over a five-week test period. These minimal protective values have been listed in the table. Here again we find the liver and kidneys of all the animals studied to be very high in the chick antidermatitis factor. Approximately 2 per cent of these organs in the dry form was sufficient for the complete protection of our animals. Heart and brain were also very good sources of this vitamin. In the case of beef muscle there was an indication that the better grade of meat contained more of the chick antidermatitis factor than the meat of lower quality. The levels required for complete protection in the case of the muscles of other animals have been between 20 and 40 per cent.

A few of our samples have been cooked in an effort to determine the stability of the chick antidermatitis factor under such conditions. It was found that by stewing, about 25 per cent of the vitamin in beef heart, spleen, and kidney was lost. Frying had very little, if any, influence on the vitamin in beef liver.

At present it is difficult to evaluate the rôle of the last two factors in human nutrition because they are of such recent recognition that nothing has been done along that line. It is possible that both of them may soon assume greater significance not only in animal nutrition but also in human dietetics.

Riboflavin was originally called vitamin G because Goldberger, in his attempts to produce an experimental case of pellagra, had turned to feeding rats a ration which produced symptoms of dermatitis. At first it was thought that the rat syndrome was analogous to the human condition. The work within the past five years has shown that vitamin G is riboflavin which is not the primary deficiency in human pellagra. At present there are three methods of analysis for this compound; namely, the chemical, the biological and the microbiological methods. The last one was developed by Drs. Snell and Strong in our laboratory. When compared with the biological assays on either rats or chicks, it gives the same results. This method depends upon the use of a certain strain of lactobacillus which requires riboflavin for the production of lactic acid. When grown on a media deficient in riboflavin, the bacteria do not grow and consequently produce no acid. As soon as a substance containing riboflavin is added to this media, lactic acid is produced in an amount which is proportional to the riboflavin added.

We have used the microbiological test in our studies on meats. In order to verify our experimental procedure we ran simultaneous assays on rats and secured identical results by the two methods. Furthermore, these results showed that even though this vitamin is very labile when exposed to light, none of it was destroyed by our method of drying. Our results indicate that the kidney and liver of all the animals studied were an exceedingly good source of this vitamin. The heart ranks next in potency while the remainder of the organs and the muscle tissues are considerably lower but within approximately the same range. This work is still in progress, but our work indicates that the vitamin is fairly stable to most cooking processes. When foods are boiled in water, this vitamin is broken loose from the proteins with which it is normally in combination. In this free condition, riboflavin is readily susceptible to leaching and thus may be lost in the cooking water.

Within the past few months a report has appeared on the occurrence of several cases of flavin deficiency among humans. These people had been kept on a diet very similar to those used by pellagrins but first showed symptoms which were relieved only by the administration of flavin.

So far no accurate values are available on the riboflavin requirement of man. Various estimates have been made, most of which have fallen within the range of 1000 to 2000 micrograms per day. On this basis approximately 10 gm. of dried liver or a tenth of a pound of fresh liver would supply the daily needs. The same amount could be secured from a pound of fresh beef round. In order to compare this with some of our other foods, it need only be mentioned that milk, which is considered a very good source of this vitamin and from which the pure compound was originally isolated, contains the daily human requirement in one quart.

Nicotinic acid has recently been shown to be the specific cure for human pellagra. This discovery was based on the fact that Elvehjem, Madden, Strong and Wooley in 1937 showed that this compound would completely cure a dog showing the typical symptoms of black-tongue. Goldberger in 1926 first produced this condition in dogs fed a ration very similar to that used by the people in areas where pellagra was endemic. He was convinced that the disturbance in his dogs was due to a deficiency of the same substance which was missing from the diet of pellagrins. On the basis of this belief he initiated a long series of assays for the pellagra-preventive factor in the common food substances. Today this method of assay is still the best one to use because the chemical method of analysis has not achieved the necessary refinement for consistently accurate results. We have fed our dogs a ration very similar to that of Goldberger's and when they showed the typical deficiency symptoms, they were given a known amount of the meat being assayed. The weight response produced by this supplement has been compared with the response produced by a definite amount of crystalline nicotinic acid fed to the same dog in the same stage of deficiency.

Our results again show a high concentration of this compound in the livers and kidneys. In general, it can be said that these organs contain 1000 micrograms or 1 mg. in each gram of dried

material. The content of nicotinic acid in the muscle tissues varies considerably with pork loin and leg of veal, containing about one-half of the amount in liver and kidney. At first this may seem paradoxical because the diet on which so many people have developed pellagra consisted of corn, pork and molasses. But it must be borne in mind that the salt pork used so commonly in the South contains very little lean meat. Nicotinic acid is found exclusively in the lean part of the meat.

This compound is the most stable vitamin so far isolated. It is not destroyed or affected by the ordinary cooking processes regardless of how severe the conditions may be. A possible loss may, however, occur when foods are cooked in water which may leach away some of the vitamin.

There are no accurate figures available for the nicotinic acid requirements of adults but various clinicians have suggested values between 15 and 25 mg. per day. In order to secure this amount it is necessary to use only a quarter of a pound of fresh liver or a half pound of veal or lean pork. Meats as a source of the pellagra-preventive factor require no further emphasis since all the workers from Goldberger on, have maintained that this food was absolutely essential in the diet in order to cure the disease.

In summary, it may be well to re-emphasize the fact that meats are not only a good source of proteins and fats but also of many vitamins. The table shows clearly that lean pork is one of the best natural sources of vitamin B_1, and that liver and kidney are very good sources of the other water soluble vitamins. The emphasis placed upon these special tissues should not lead us to overlook the important rôle that other meat products play in furnishing our daily requirements for these accessory food substances.

THE RELATION OF THE DIETITIAN TO THE PHYSICIAN IN MODERN MEDICAL PRACTICE[1]

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MODERN medical practice has for its objective a thorough study and adequate control of all phases of a patient's life. To be complete such a procedure must include a searching investigation of the individual's family, past and present history, and even future plans and activities; a comprehensive physical examination; laboratory tests which are indicated; and a therapeutic regimen based upon all the physician's findings. It must be realized that not only is the physical state of the patient of importance but also his emotional reactions. In this task the physician must call to his aid many helpers so that he often uses an entire team consisting of other physicians with special training and equipment, nurses, laboratory technicians, dentists, x-ray technicians, social service workers, hospital administrators, and of particular interest for our present consideration, the dietitian.

How important is the dietitian to the physician in his care of the patient? One method of ascertaining this is to review some of the conditions confronting a practitioner in which dietary planning and supervision are necessary.

In the first place the normal healthy individual, who comes for a check-up and wishes to keep in good condition, must be placed on a well-rounded diet adequate in calories, vitamins, minerals, and water. In this work the dietitian can be of great help to the physician who is not able to plan the detailed meals. Then there are many apparently normal persons who are on defective diets. The factors of safety have permitted them to escape incapacity but it is important to correct the deficiencies before an illness makes manifest in a physical fashion the dietary abnormality. This type of work is preventive and while perhaps not spectacular, yields excellent results. The dietitian also has an opportunity to discover peculiarities in otherwise normal people, such as idiosyncrasies to food—either allergic or esthetic—both of importance for a correct appreciation of the patient.

One of the most important fields for preventive work is in the care of obstetrical patients, infants and children. Regulation of a diet for the child begins before birth. This is especially true of iron. After the child is born proper growth is almost entirely a problem of diet. The food of the expectant mother is a very important feature of her care. Not only are iron, calcium, proper nitrogen balance, and regulation of the patient's weight and the size of the fetus by proper caloric intake the concern of the obstetrician, but in abnormal conditions salt and water, among other substances, may have to be limited.

In surgical patients preoperative and especially post-operative diets are of

[1] Based on an address before the Greater New York Dietetic Association in the Auditorium of the Nurses' Residence, New York Hospital, April 10, 1939.

considerable concern. Fractures heal best when the calcium-phosphorus balance and vitamin D are at an optimum. Recently, important contributions have been made in the use of vitamin K for jaundiced patients with low prothrombin content of the blood. The correction of the low prothrombin is especially important in operating upon individuals with obstructive jaundice and has probably prevented fatal hemorrhage in many instances. While vitamin K is best administered as a medication, the dietitian will undoubtedly be called upon for advice as she is in the prescription of most vitamins.

One of the chief problems with psychiatric patients is anorexia, and the dietitian is of greatest aid in the solution of this trying problem by careful attention to detail, ingenuity in the preparation of menus and intimate knowledge of what might tempt the patient.

The importance of diet in dental caries has been emphasized recently by the work of Dr. Larson of Hawaii who demonstrated the high incidence of defective teeth in those children living on rice, resulting in an acid urine, and the good teeth in natives living on *poi* as their chief carbohydrate food. These latter individuals have an alkaline urine and when children are switched from rice to *poi*, marked improvement in their teeth occurs.

In general medical practice the dietitian may be of assistance in most diseases. For acute infections a "light" or "liquid" diet is often ordered without a clear appreciation that some liquids such as undiluted or unmodified milk may be a fairly solid food in the stomach. In chronic infections such as typhoid fever, the caloric intake must be high and the physician needs the help of the dietitian to make such a diet palatable and digestible. The realm of allergy is often the concern of the dietitian.

It might be interesting to mention briefly some other medical conditions and the importance of diet in their management. In lead poisoning attention to calcium intake is indicated; and in children, phosphorus and vitamin D are important. Alcoholism must be treated with an adequate diet and sufficient vitamin B. In treating certain deficiency diseases and metabolic derangements the dietitian plays an important rôle. For example, pellagra requires a high caloric, high protein, and high vitamin B_2 diet; beriberi, high vitamin B_1; scurvy, high vitamin C; rickets, high vitamin D and proper calcium-phosphorus balance; sprue, intrinsic and extrinsic factors and low fat; gout, low purines and, some workers believe, a low fat diet. Diabetes mellitus cannot be treated without intensive dietetic instruction. The same is true of obesity. Hypoglycemia, due to excessive function of the islands of Langerhans, requires a low carbohydrate diet.

Gastro-intestinal disorders by their very nature require dietary supervision. Hyperacidity, while corrected by alkalis, often is caused by improper foods as well as by emotional factors. Peptic ulcers are usually treated by some form of Sippy diet; while some physicians now give patients with bleeding ulcers a Meulengracht pureéd diet. Gallbladder disease is usually helped by a low fat intake. In colitis, low roughage, adequate vitamins and, in some cases, an apple diet, are prescribed. Chronic constipation is helped not only by proper habits but by adequate roughage and

sufficient water intake and occasionally by laxative foods. Bland foods are usually indicated in diarrhea. Liver diseases like cirrhosis should be treated by a diet low in fat, high in carbohydrate, but free of condiments, with a minimum of roughage, no alcohol, and with all foods of moderate temperature. In addition, high vitamin B and K intake is desirable. Nephritis requires attention to water and salt. In certain anemias iron and liver are important. A patient suffering from congestive heart failure is most comfortable with small frequent feedings; and in the presence of edema, control of water and salt is desirable. As an illustration of endocrine conditions other than diabetes, the hyperthyroid patient requires an adequate number of calories with a proper amount of carbohydrate and protein and in parathyroid disease the calcium-phosphorus balance plays an important rôle.

These conditions, briefly mentioned, almost in catalogue fashion, are merely illustrations of the many fields of health and disease in which the dietitian is of aid in the care of patients. How can this help best be given? How can the dietitian play her part in the team which the physician directs in his attack upon disease? In the first place, the dietitian must keep in close contact with the medical man, not only to carry out his orders but, even of greater importance, to educate him. And this process of education must start early—with the medical students and interns. It is for this reason that in the curriculum of many medical schools instruction in practical diet therapy is given by dietitians.

A second important function of the dietitian is personal service to the patient. Giving typewritten or mimeographed instructions without explanation, demonstration, and quizzing the patient to see if he understands a diet, is frequently useless. How often do patients misinterpret directions? The dietitian must modify general rules not only for the specific case but must constantly remember economic variables, language difficulties, differences in national customs, and individual tastes. Each person represents a special problem and general rules must be used only as starting points.

All therapeutic measures must include at least four basic considerations: (a) specific therapy, (b) economic problems or the cost of therapy, (c) the convenience of the patient and his psychology, and (d) the course of the disease or how treatment is modified when the duration, complications, and probable outcome are evaluated. No matter how good a diet may be it is valueless if the patient cannot afford it or if it is distasteful to him. If a patient's life is made miserable by a rigid diet or if his prognosis is bad, theoretical considerations must be changed.

The dietitian needs patience as one of her chief qualities. She must remember how difficult it was for her to master her problems. She cannot expect a patient to attain perfection without much repetition and the commission of many errors. If she is to be a valuable member of the medical team she must also show much patience with the physician who is often untrained in dietetics. At times no member of this medical team can contribute more to the patient than the dietitian.

A STUDY OF DISLIKED AND UNFAMILIAR FOODS[1]

IRENE S. HALL[2] AND CALVIN S. HALL[3]

ALTHOUGH nutrition is a young science, its achievements during the past third of a century have been substantial. Today we have an immense fund of information concerning the utilization of food by man. Nor have nutritionists, with the facts in hand, been reluctant to crusade for better dietary habits. The columns of the daily newspapers, a barrage of radio programs, the pages of numerous magazines, countless pamphlets and books, and a steady stream of speeches bear the message of a more adequate diet for the American family. Doubtless this mass attack on the nation's eating habits has had a beneficial effect.

Man is not, however, an entirely rational animal. When his prejudices and preferences are opposed by scientific findings, too often the former guide his conduct. Hence the problem of building better nutritional habits cannot be solved merely by supplying man with knowledge of what is best for him. His attitudes toward food, their origin and development, must be recognized as potential barriers to his acceptance of nutritional advice. Man's appetites and aversions for specific foods constitute a psychological problem.

The present study was undertaken to ascertain what foods are disliked and the reasons people give for these aversions. At the same time, data were secured regarding foods with which people are unfamiliar.

[1] Received for publication March 24, 1939.

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METHOD OF INVESTIGATION

A total of 693 students in three universities, *viz.* the University of California, the University of Oregon and Western Reserve University constituted the sample (table 1). Each student was given a mimeographed list of 150 foods arranged in alphabetical order. The student was instructed to check those foods which he disliked so much that he had always refused to eat them or had discontinued eating them under ordinary conditions. He was told not to take into account those instances where the offensive food was eaten for the sake of good manners. For each food checked, the student was instructed to indicate the reason for disliking it. A list of possible reasons was supplied him to choose from, but if the reason did not appear in this list, he was told to write it in. If he disliked a food for several reasons only the most important one was to be cited.

TABLE 1

Number of Subjects by University and Sex

	MEN	WOMEN	TOTAL
University of California	60	194	254
University of Oregon	75	111	186
Western Reserve University	80	173	253
Total	215	478	693

The students were asked to place question marks before those foods with which they were not familiar or had never had an opportunity to taste.

In addition to these instructions, the following statements were made. "All of the foods listed are supposed to be

in the fresh state, not canned or dried unless indicated. You are not supposed to consider the way in which they may be cooked. If, for example, you like hard-boiled but not soft-boiled eggs, you are *not* to check the food as being disliked. You are only to check those foods which you dislike no matter how they may be prepared."

The results for the entire group were tabulated and the percentage of subjects checking and questioning each food was obtained (*see* table 2). The foods in the inventory given the students were arranged in alphabetical order, but for purposes of comparison they were grouped under the several headings appearing in table 2.

FOOD AVERSIONS

The ranking of the thirteen categories and sub-categories (miscellaneous foods omitted) from most disliked to least disliked is as follows:

Organs (27.4)
Alcoholic beverages (27.2)
Shellfish (12.0)
Strong-juiced vegetables (12.0)
Dairy products (10.3)
Non-shellfish (7.9)
Sweet-juiced vegetables (5.5)
Breads and cereals (4.6)
Non-alcoholic beverages (4.3)
Poultry (3.5)
Fruits (2.5)
Meats (2.2)
Nuts (1.4)

The percentages appearing in the parentheses were obtained by averaging the percentages for all the foods in each category.

The ten most disliked foods in order are:

1. Buttermilk (44.6)
2. Brains (39.8)
3. Beer (37.1)
4. Gin (34.3)
5. Kidney (32.5)
6. Whiskey (32.2)
7. Beef Liver (26.7)
8. Calves Liver (25.3)
9. Oleomargarine (24.7)
10. Parsnips (23.7)

When alcoholic beverages and organs are omitted the ten most disliked foods are:

1. Buttermilk (44.6)
2. Oleomargarine (24.7)
3. Parsnips (23.7)
4. Egg-plant (22.4)
5. Caviar (21.5)
6. Hominy (19.8)
7. Oysters (19.3)
8. Turnips (19.0)
9. Rutabagas (17.7)
10. Clams (17.6)

UNFAMILIAR FOODS

The ten most universally unknown or untasted foods are:

1. Leeks (64.8)
2. Abalone (59.0)
3. Okra (50.9)
4. Endive (43.2)
5. Chard (34.9)
6. Caviar (31.6)
7. Lentils (30.9)
8. Rutabagas (28.7)
9. Persimmons (28.6)
10. Brains (28.1)

THE RELATIONSHIP BETWEEN DISLIKED AND UNFAMILIAR FOODS

It will be noted that two foods, namely, caviar and brains, appear among the first ten disliked as well as among the first ten unfamiliar foods. An inspection of table 2 reveals other cases where there is a relatively high percentage of checks and questions; for example, hominy, oleomargarine, avocado, persimmons, kidney, and rutabagas.

TABLE 2

Percentage of Students Disliking or Questioning Each of 150 Foods

(n = 693)

FOODS	PER CENT DISLIKING	PER CENT QUESTIONING
I		
Beverages	18.6	5.2
A. Non-alcoholic	4.3	.3
1. Cider	3.3	.4
2. Coffee	6.5	.4
3. Tea	3.0	.0
B. Alcoholic	27.2	8.2
1. Beer	37.1	4.0
2. Brandy	21.5	13.0
3. Gin	34.3	11.1
4. Whiskey	32.2	8.8
5. Wine	10.8	4.0
II		
Breads, cereals etc.	4.6	1.1
1. Bread, white	2.2	.0
2. Bread, whole wheat	2.0	.0
3. Bread, Graham	2.2	.3
4. Bran	8.7	.4
5. Crackers, Graham	1.2	.0
6. Crackers, soda	.6	.0
7. Hominy	19.8	12.1
8. Macaroni	2.4	.0
9. Oatmeal	6.3	.0
10. Rice	2.0	.0
11. Spaghetti	1.0	.0
12. Tapioca	6.5	.7
III		
Dairy products	10.3	1.5
1. Butter	.0	.0
2. Buttermilk	44.6	1.8
3. Cheese, American	2.9	.1
4. Cheese, Cottage	10.1	.1
5. Cheese, Swiss	5.9	.0
6. Cream	2.9	.0
7. Eggs	2.3	.1
8. Ice cream	.3	.0
9. Milk	3.0	.1
10. Milk, canned	16.6	1.6
11. Oleomargarine	24.7	12.4
IV		
Fish	9.8	12.8
A. Shellfish	12.0	15.5
1. Abalone	2.9	59.0
IV—*Concluded*		
A. Shellfish		
2. Clams	17.6	9.5
3. Crabs	10.7	6.8
4. Lobster	10.2	11.1
5. Oysters	19.3	3.9
6. Shrimp	11.4	2.5
B. Non-Shellfish	7.9	10.4
1. Anchovies	8.4	22.4
2. Caviar	21.5	31.6
3. Halibut	3.9	1.6
4. Salmon	2.9	.1
5. Sardines	10.4	3.0
6. Sole	4.6	14.3
7. Tuna	3.3	.1
V		
Fruits	2.5	3.1
1. Apples	.4	.0
2. Apricots	1.6	.0
3. Avocado	13.9	17.6
4. Bananas	1.6	.0
5. Blackberries	1.2	.0
6. Cherries	.6	.0
7. Cranberries	2.7	.0
8. Cantaloupe	3.2	.0
9. Dates	2.2	.0
10. Figs	7.2	.0
11. Grapes	.1	.0
12. Grapefruit	1.4	.0
13. Grape juice	1.2	.0
14. Lemons	.3	.0
15. Limes	1.7	5.8
16. Muskmelon	3.5	3.3
17. Nectarines	.9	24.7
18. Olives	3.0	.3
19. Oranges	.0	.0
20. Peaches	.1	.0
21. Pears	.7	.0
22. Persimmons	11.4	28.6
23. Pineapple	.6	.0
24. Plums	.7	.0
25. Pomegranates	4.9	13.9
26. Prunes	2.7	.0
27. Raisins	2.9	.0

TABLE 2—*Concluded*

FOODS	PER CENT DISLIKING	PER CENT QUESTIONING
V—*Concluded*		
Fruits—*Concluded*		
28. Raspberries	.6	.0
29. Strawberries	.1	.0
30. Watermelon	2.3	.0
VI		
Meat and Poultry	8.5	4.3
A. Meats	2.2	1.0
1. Bacon	2.4	.7
2. Beef, corned	4.9	1.2
3. Beef, roast	.4	.0
4. Beef, steak	.4	.0
5. Beef, dried	3.9	2.2
6. Ham	1.6	1.4
7. Lamb, roast	2.2	.0
8. Lamb, chops	2.2	.0
9. Pork, chops	2.9	2.2
10. Pork, sausage	3.8	2.2
11. Pork, tenderloin	2.2	2.5
12. Sausage, bologna	2.0	1.0
13. Veal, roast	1.0	.3
14. Veal, cutlet	1.0	.3
B. Organs	27.4	11.5
1. Beef liver	26.7	3.3
2. Beef tongue	23.4	5.8
3. Brains	39.8	28.1
4. Calves liver	25.3	2.5
5. Kidney	32.5	17.7
6. Sweetbreads	16.6	11.5
C. Poultry	3.5	4.8
1. Chicken	.7	.0
2. Duck	3.2	1.8
3. Rabbit	9.4	8.4
4. Squab	4.0	14.0
5. Turkey	.4	.0
VII		
Nuts	1.4	.2
1. Almonds	.0	.3
2. Brazil nuts	2.2	.3
3. Cocoanut	3.3	.1
4. Peanuts	.1	.0
5. Walnuts	1.2	.1
VIII		
Vegetables	7.0	8.7
A. Sweet juiced	5.5	7.6
1. Artichokes	7.8	12.4
2. Asparagus	3.5	.1
3. Beans	1.7	.0

FOODS	PER CENT DISLIKING	PER CENT QUESTIONING
VIII—*Concluded*		
A. Sweet juiced—*Concluded*		
4. Beans, Lima	7.8	.0
5. Beans, string	3.0	.0
6. Beets	4.8	.0
7. Carrots	2.4	.0
8. Celery	1.0	.0
9. Corn	.9	.0
10. Chard	7.5	34.9
11. Cucumbers	7.4	.1
12. Egg-plant	22.4	6.5
13. Endive	5.8	43.2
14. Lettuce, Romaine	2.3	20.8
15. Lettuce	.4	.0
16. Lentils	4.9	30.9
17. Mushrooms	9.1	1.7
18. Okra	8.2	50.9
19. Peas	.9	.0
20. Peppers, green	4.3	.1
21. Potatoes, white	1.4	.0
22. Potatoes, sweet	4.5	.0
23. Pumpkins	4.2	.1
24. Radishes	3.3	.0
25. Rhubarb	9.8	.4
26. Spinach	8.2	.1
27. Squash, Hubbard	11.1	3.3
28. Squash, Italian	10.1	7.4
29. Tomatoes	2.3	.0
30. Watercress	4.6	16.3
B. Strong juiced	12.0	12.1
1. Broccoli	11.4	10.1
2. Brussels sprouts	10.5	2.2
3. Cabbage	5.9	.0
4. Cauliflower	7.4	.1
5. Leeks	5.6	64.8
6. Onions	6.9	.0
7. Parsnips	23.7	2.4
8. Rutabagas	17.7	28.7
9. Turnips	19.0	.6
IX		
Miscellaneous	2.0	.1
1. Chocolate	.1	.0
2. Honey	2.2	.0
3. Mayonnaise	3.6	.0
4. Molasses	2.7	1.0
5. Salt	.0	.0
6. Sugar	.3	.0
7. Mustard	4.8	.0

Unfamiliarity with a given food may be due to three principal reasons: (1) The food is not available, for example, abalone in the Middlewest. (2) The food is not served at home because of aversion, religious preference, ignorance, or for reasons of health. (3) The idea of the food is distasteful to the person, for example, brains. Since the last reason indicates a food aversion, a more accurate picture of food dislikes, in some instances, may be obtained by adding together the checks and questions.

If one is interested in the percentage of people who do not eat a given food, whether because of aversion or unfamiliarity, this figure can be readily obtained by adding percentage disliking to percentage questioning given in table 2.

SEX DIFFERENCES

The percentage checking and questioning each food was computed separately for the 215 men and the 478 women. The significance of each difference was computed by the appropriate formulae and equations.[4] Any difference between the male percentage and the female percentage which was two times or more the standard error of the difference was accepted as suggesting a true difference. (The chances are 98 in 100 that a difference twice its standard error is a real difference.)

According to this criterion, there are only three foods which a greater percentage of men checked than women. These three foods are cucumbers (10.7 vs. 5.9), green peppers (7.9 vs. 2.7), and tuna fish (7.0 vs. 1.7). On the other hand there are fourteen foods which more women than men checked. These foods are the following:

	MALES	FEMALES	CRITICAL RATIO
Avocado	9.8	15.7	2.3
Corned Beef	1.9	6.3	3.1
Beef Tongue	16.7	26.4	3.0
Beer	19.5	45.0	7.2
Buttermilk	38.1	47.5	2.3
Calves Liver	19.1	28.0	2.6
Caviar	15.8	24.1	2.6
Coffee	3.3	7.9	2.7
Figs	2.8	9.2	3.7
Canned Milk	10.7	19.0	3.0
Oleomargarine	19.5	27.0	2.2
Oysters	12.6	22.4	3.3
Rabbit	5.1	11.3	3.0
Sweetbreads	9.3	19.9	3.9

As one might expect from differences in training and interest women are familiar with a wider assortment of foods than men. Only four foods are known by more males than females; namely, beef liver (.5 vs. 4.6), brandy (6.5 vs. 15.9), gin (6.5 vs. 13.2) and whiskey (2.8 vs. 11.5). The following thirteen foods are questioned by more men than women:

	MALES	FEMALES	CRITICAL RATIO
Anchovies	34.9	16.7	5.0
Artichokes	17.7	10.0	2.6
Avocado	26.0	13.8	3.6
Broccoli	17.2	6.9	3.7
Brussels Sprouts	5.1	.8	2.8
Chard	48.8	28.7	5.0
Endive	62.8	34.3	6.0
Leeks	72.6	61.3	3.0
Lentils	41.9	25.9	4.1
Romaine Lettuce	25.6	18.6	2.0
Okra	68.8	42.9	6.7
Sole	20.5	11.5	2.9
Watercress	29.8	10.3	5.7

[4] Garrett, H. E.: Statistics in Psychology and Education. Formulae (45) and (46), pp. 227–228.

UNIVERSITY DIFFERENCES

The percentage checking and questioning each food was computed separately for the samples from the three universities. A greater number of Western Reserve students check the alcoholic beverages and fish and shellfish than the Pacific Coast students. Since all the fish and shellfish listed were salt water varieties, this difference suggests that liking for sea foods is in part an acquired one, and that middlewesterners do not have as favorable an opportunity to acquire the taste as do students living near the seacoast.

The only other difference of any size and for which there is no apparent explanation is that more Western Reserve and Oregon students dislike egg-plant than do California students.

More California students are familiar with abalone, nectarines, squab, persimmons and pomegranates than either Oregon or Western Reserve students. This is not surprising since all of these foods, with the exception of squab, are more available in the South than in the North.

Foods which are questioned by more Western Reserve students than either California or Oregon subjects are hominy, shellfish, sole, avocado, artichokes, and Italian squash.

Broccoli is the only food which is relatively more unfamiliar to California students than to either of the other groups. Rutabagas are less strange to Oregonians than to students at California and Western Reserve, whereas endive is known to a greater percentage of Western Reserve subjects than to either of the other two groups.

On the whole, similarities in taste and familiarity among the students of the three institutions are more striking than the differences obtained.

A COMPARISON OF THE FOOD AVERSIONS AND UNFAMILIAR FOODS OF JEWISH VERSUS NON-JEWISH STUDENTS

There were 47 Jewish students in our total sample. A comparison of percentages of foods checked or questioned reveals the following differences between Jews and non-Jews.

More Jews dislike bacon, ham, pork and pumpkin than non-Jews, whereas fewer Jews disliked wine, buttermilk and the organs. More Jews are unfamiliar with oleomargarine, canned milk, bacon, dried beef, pork, ham, organs, rabbit, chard, Hubbard squash and watercress.

Fewer Jews are unfamiliar with lentils and alcoholic beverages, other than gin.

Some of these differences are obviously due to food taboos.

REASONS FOR DISLIKING FOODS

As stated in a preceding paragraph, the students were instructed to give the most important reason for their disliking a particular food. A list of possible reasons was appended to the inventory, but they were asked to write one in if they did not find the reason in this list. The percentage of students citing each reason appears in table 3.

Some of the reasons, as elaborated by the students, are interesting. One student dislikes avocado because it reminds her of cold cream. Another avoids beer and whiskey because he once drank too much and "made an ass of myself". One student has an aversion for lamb roast and lamb chops because they taste woolly. (Is this an hallucination due to an association of wool with lambs?)

One person dislikes milk because "I just never drank it". It would be interesting to know why not. Rabbit and duck are avoided by many students for sentimental reasons. An example of strong emotional conditioning is revealed by the following reason: "I do not like clams or oysters because they remind me of an oyster I cut up in zoology.

TABLE 3

Reasons Given for not Liking Foods

REASON	PERCENTAGE OF TOTAL REASONS GIVEN
Taste	50.5
Texture	7.2
Makes ill	6.1
General appearance	5.6
Smell	5.3
Offensive bodily organ	5.0
Tasteless	3.5
Unpleasant experience or association	2.7
Family did not like it	2.5
Forced to eat it	2.1
Miscellaneous	2.1
Ate too much	1.1
Smells badly in cooking	1.1
Moral or religious	1.1
Lacks appeal	.7
Indigestible	.7
No or limited food value	.7
Too difficult to eat	.6
Color	.5
Vegetarian	.5
Manner in which it is eaten	.3
Eaten by poorer classes	.1
Don't know	.1

Every time I see one, I smell formaldehyde." One student dislikes onions because they "keep coming up in belches". Many of us can sympathize with him.

Radishes are called "superfluous" by one person. Another has an aversion to mushrooms because a poisonous species caused a death in the family. One student checks dried beef, beef tongue, clams, duck, hominy, and oatmeal because they "seem to swell up in my mouth and I can't swallow them".

There are no significant differences in the reasons given by the various groups nor between the sexes.

NUMBER OF FOODS DISLIKED OR QUESTIONED

Distributions of the number of foods checked or questioned by each student were made. The distributions for the total group appear in table 4. The median number of foods checked is 8.97 with a quartile deviation of 8.78. The median number of foods questioned is 6.86 with a quartile deviation of 7.36. Both distributions are positively skewed.

TABLE 4

Number of Foods Checked or Questioned

(n = 693)

NUMBER OF FOODS	PERCENTAGE CHECKING	PERCENTAGE QUESTIONING
0–4	23.7	35.6
5–9	32.0	33.5
10–14	22.5	19.4
15–19	11.9	6.6
20–24	5.0	3.1
25–29	3.2	1.7
30–34	1.9	.6
35–39	.5	.0
40–44	.2	.1
45–49	.0	.1
50–54	.0	.0
55–59	.1	.0

A comparison of the various groups with regard to the number of foods checked or questioned was made. The results appear in table 5. The Household Science group were enrolled at the University of California and the Jewish students at Western Reserve University.

The Household Science female students have the fewest number of food aversions, the Western Reserve women the greatest, although there is no significant difference between the latter and either the California or Oregon females. In every case, with the exception of the Jewish group, men have fewer food dislikes than women. On the other hand, women know more foods than men.

TABLE 5

Medians and Quartile Deviations for the Number of Foods Checked or Questioned According to Group

	MEDIAN		QUARTILE DEVIATION	
	Men	Women	Men	Women
Number Checked				
California	7.18	10.67	5.78	10.27
Household Science		6.90		6.88
Oregon	8.50	10.39	7.13	9.87
Western Reserve	9.21	10.77	9.37	9.87
Jewish	9.83	8.00	9.37	8.83
All Groups	8.45	9.40	7.87	9.37
Number Questioned				
California	6.25	5.09	6.43	5.03
Household Science		4.47		5.28
Oregon	8.08	6.79	6.27	6.31
Western Reserve	9.79	8.58	7.86	8.95
Jewish	14.82	9.06	15.35	10.03
All Groups	8.98	6.24	7.10	6.93

Household Science students know the most foods, Jewish men the fewest. California students are better acquainted with foods than Oregon students and these in turn are more familiar with foods than Western Reserve students. The rich diversity of foods in California doubtlessly accounts for the greater knowledge of foods among these students.

SUMMARY

1. A total of 693 students enrolled in three universities were given a list of 150 foods, with instructions to check those they disliked so much that they would not eat them under ordinary circumstances and to place a question mark before those with which they were unfamiliar or had never eaten.

2. The most universally disliked food of those listed is buttermilk. Organs and alcoholic beverages are not eaten by a relatively large proportion of students. More than one out of every five students have an aversion towards oleomargarine, parsnips, egg-plant and caviar.

3. The leek is the most universally unknown food. Abalone and okra are questioned by more than half of the subjects. Thirty per cent or more are not familiar with endive, chard, caviar and lentils.

4. Some of the foods which rank high in being disliked also rank high in being unfamiliar.

5. Significant sex differences in food aversions are found with respect to seventeen foods. An equal number of sex differences in familiarity was found.

6. There are some differences between the groups at the three universities but the similarities of taste and familiarity are more striking than the differences.

7. The food aversions and questionings of Jewish and non-Jewish students differ in some particulars but for the most part there is agreement.

8. The most often cited reason for disliking a given food is that "it does not taste good". Texture, cause of ill-

ness, general appearance, and smell are other reasons mentioned more than 5 per cent of the time.

9. The median number of foods disliked by the total group of subjects is approximately nine; the median number questioned is almost seven.

10. Women have more food aversions than men, but women are familiar with more foods than men.

SEX AND AGE ALTERATIONS IN TASTE PREFERENCES[1]

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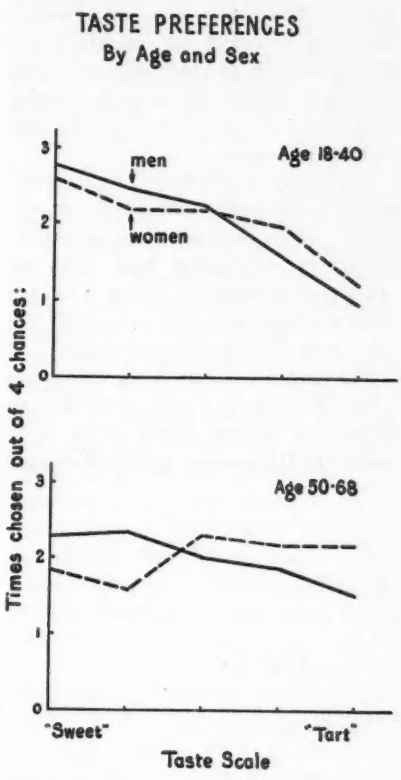
THE gradual disappearance of taste buds throughout life has been demonstrated by anatomical and physiological studies. In early childhood taste buds are present on the inside of the cheeks and in the throat, in addition to the tongue. During adolescence these disappear and chiefly those on the tongue remain. In the span of adult decades little change appears to take place, but in the later years of life there is again a decline, both structural and functional, in the taste buds.

These basic changes probably explain the alterations in food enjoyment as the individual passes from childhood into maturity. Foods which the child did not enjoy become palatable in maturity, not necessarily because the child was temperamental or finicky but rather because his richer supply of taste buds very possibly brought out taste characters which the adult mouth does not sense, or at least does not sense with equal acuity.

Sex differences in the number and functioning of taste buds have not been well established.

The influence of these basic changes on taste preferences has not been the object of scientific investigation, although it is a problem of considerable clinical and commercial importance. Herewith is reported data on taste preferences of 35 girls and 25 boys between 12 and 18 years old, of 25 women and 25 men from 20 to 40 years old, and 25 women and 25 men between 50 and 68 years old[2]. These data are concerned with taste preference, not with sensitivity as such, but the preferences we may expect to be due in part at least to sensitivity.



[1] Received for publication March 28, 1939.

[2] We appreciate the cooperation of Principal George A. Walton and Miss Ann Daschield, instructor in home economics, of The George School, in the work with the younger group of subjects.

A pineapple juice for table use was developed in five degrees of sweetness, using the method of least perceptible differences to establish uniform degrees of separation along the sweetness scale. This "taste thermometer" did not change the olfactory or temperature stimulation so far as could be determined. The change was one of sweetness only, but since the material was a fruit juice with an essentially tart taste the charts indicate the scale as ranging from sweet to tart, along equally perceptible intervals.

The taste preferences were determined by the method of paired comparisons in which each taste was separately judged in comparison with only one other taste strength at a time, and each taste strength was compared with the other four for the complete study.

The preference curves for the group 12 to 18 years old closely paralleled the curves for the age range of 20 to 40 years, and the younger age is not charted separately. This suggests that the youthful disappearance of taste buds from cheeks and throat is completed by the twelfth year.

In the oldest group, however, there is a noticeable shifting of taste preferences around what may be called a neutral pivot. The preferences for sweets decline while preferences for the tart "fruity" taste rise. Age apparently becomes sour in taste, if not in disposition.

Unexpected sex differences appeared in all three age groups. The taste preferences of the women were more like those of the oldest group, even with the girls under 18 years old. The women at all ages, in comparison with the men, had more preferences for the tart tastes, and less for the sweet. Since this trend appears distinctly in all three age groups it is not likely to be accidental that women's taste preferences incline more in the direction of the preferences of the aging group.

THE CLINICAL PROJECT—ITS USE IN TEACHING DIET THERAPY TO NURSES[1]

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BEFORE discussing the use of the instrument—which shall be herein designated as the "Clinical Project"—in the teaching of diet therapy to students of nursing, the history of the project as a method of instruction in general education will be sketched briefly and its purpose defined. Later, a description of its use in a clinical field will be attempted, with an illustration of its application in the teaching of diet therapy in schools of nursing.

The project method is an outgrowth of a movement initiated by Dewey in his experimental school in Chicago at the turn of the century. Its earliest use was seen in the training for occupations—manual training. It had as its aim the development of more responsibility in the student. About 1918 Kilpatrick (1) brought forth in a more finished form the project method as an instrument for furthering education of the creative type advocated by Dewey. The depression years following 1929, with dissatisfaction felt for existing conditions, resulted in a public state of mind which demanded all sorts of social reform, including reform of the educational system: the progressive school now had its chance. General education experimented with Kilpatrick's method, with the result that, after several years, and with modifications and augmentations, it is now in successful use in some of our best and most conservative institutions for general and professional education.

[1] Read before the Nebraska Dietetic Association, Omaha, November 5, 1938.

Kilpatrick defined the project as a psychological method of teaching, a method presenting "a typical life unit", or "practice in living", and further describes it as being founded on the concept of "whole hearted, purposeful activity". That is, the student experiences pleasure in the activity, and he sees its purpose. Upon successful conclusion of the activity the student is led on by his newly developed ability to see things he has not been able to see before, and to do things he could not have done before: his interests become wider, his achievements greater; he is a better citizen.

In setting up a situation in nursing education which will be favorable to the use of the project method of teaching, the objectives must first be defined. What do we hope to accomplish? Do we wish to use this instrument to develop skills, to teach subject matter, or to develop desirable attitudes toward nurse-patient-community relationships? Which it shall be is a matter of emphasis rather than of selection, since all are necessary in a situation which presents "a typical life unit" or "practice in living". In deciding upon the point of emphasis, until we are facile enough in our teaching to be able to place just the requisite degree of stress on all phases of the learning situation, it would seem that any new teaching method should be investigated for its possibilities for helping us reach that objective which has been most difficult of attainment.

We have done fairly well in teaching skills to our nursing students, and sub-

ject matter is, on the whole, being taught satisfactorily in our better schools. Where we have done the poorest job is in fostering attitudes which permit of an interpretation of nursing "as a social institution designed to promote individual and community well-being" (2). That is, the student does not see, in its larger aspects, the social significance of her relation to her patient and his community. She sees him as requiring medications, a special diet, and other bedside care. Too often she fails to appreciate that her responsibilities go farther than bedside care consisting of skills, which ends with his period of hospitalization; that if her ministrations are to be of fullest and of lasting value, they must go with him into his home and his community through her teaching of personal and community hygiene.

The Clinical Project is an excellent instrument for teaching desirable attitudes, for providing experience in caring for a patient as a member of a family and of a community; it is an instrument through which the student may be brought to see herself as a public health nurse in her influence, even though her field of work lies within the confines of the hospital.

The project is a cooperative undertaking in which all departments interested in the care of the patient participate. Let us consider a typical situation. The patient has empyema and is soon to have drainage of the pleural cavity. He will require attendance by a surgeon, nursing care demanding a knowledge of the condition, and skills commensurate with the care of a critically ill patient; he will require a carefully planned diet. Later, during convalescence, he will benefit by occupational therapy. A medical-social worker will have taken care of arrangements for his convalescent period following hospitalization. In such an ideal set-up the doctor, the nurse, the dietitian, the occupational therapist, and the medical-social worker all work to the end that the patient may again become a useful and happy citizen. These, then, are the persons who will contribute to the success of the project.

The instructor, be she dietitian, social worker, or nurse, will see her position as that of a guide. She provides the problem-solving situations; then stimulates the student to recognize and attack the problems presented. This is accomplished through the selection of the patient, through suggestions for reading, and by arranging for the student to interview relatives and workers in the various departments.

In choosing a project the potency of motivation in the learning process should be kept in mind. Emotional experiences are more lasting in influence than those of purely an intellectual nature; pleasurable experiences tend to be repeated. Therefore a patient should be chosen whose care will provide satisfaction to the student through affording her a sense of accomplishment. The problems may be predominantly in the field of dietetics, in nursing, or in medical-social work. But in order to teach the whole care of a patient and how hospital departments are correlated, it is important that more than one field be considered. The problems presented may concern such widely diversified aspects of care as diet; maintenance of posture; education in community hygiene; sustentation of interest in school of the child of school age; reeducation in cases of physical handicaps.

In the smaller schools it is probable that the dietary and nursing services only will be represented on the teaching staff. In such instances the responsibilities for drawing the student's attention to such problems as fall in the province of the medical-social and occupational therapy worker must rest upon the dietetic and nursing instructors.

The student is brought to recognize the problems confronting her and learns methods of attacking them, through a thorough knowledge of the patient obtained from the chart, supervised approaches to relatives, frequent conferences with the head nurse and, perhaps most important, observation of and conversation with the patient during his care. Her reference reading will be based on the student's felt needs and upon suggestions from the instructors. Much guidance is afforded through an informal type of conference in which the student reviews all aspects of the project in so far as she has been able to perceive them. Free discussion follows in which the student is assisted in recognizing additional phases of care which may be desirable, and social factors which may hinder or contribute to the patient's return to normal living. Moreover, here is an opportunity to assist the student to recognize teaching as an integral part of her patient's care, made imperative by the position of teacher which has been thrust upon the nurse as an instrument of preventive medicine.

The head nurse must have an understanding of the objectives and of the means to be used to assure the success of the project. Without her interest, little of value can be accomplished. She it is who observes and guides the daily work of the student; who knows the plans for future care of the patient; who is in a position to provide experience for the student in interviewing workers from the various hospital departments and outside agencies who may be contributing to the patient's care.

Evaluation of the project is based on how much the patient has profited by the care given. This will be reflected in the conferences by the understanding shown and plans proposed; in the student's daily work with the patient; by the written report of the care given and plans made for the future. If the student, through her readings, her conferences, her experiences in caring for the patient, has been able to give care which approaches the ideal—such circumstances as the student's age in the school, the ultimate prognosis of the patient, and assistance afforded by the various hospital departments, being considered—she will have acquired some additional skill and knowledge, will have experienced a feeling of satisfaction in accomplishment, will have formed attitudes which must inevitably be carried over to her care of other patients.

With this general picture of the Clinical Project in mind, the dietetic phase will now be considered.

In her course in nutrition, the student will have received instruction in what constitutes the normal diet. If she has had the course in diet in disease, she will know how the normal diet is modified in diseased conditions. The Clinical Project gives her an opportunity to test her ability to utilize this knowledge. Moreover, problems of administration of the diet will confront her, the solution of which will provide her with valuable technics for inducing the patient to take food.

In setting up a normal diet, the student calculates the patient's individual caloric need as ranging from twenty-five to forty calories per kilogram, depending upon his age, present nutritional state, and his activity. The patient is weighed at stated intervals as a check on the adequacy of his intake. The vitamin, mineral, fluid, and bulk intake is kept as nearly normal as possible.

With this as a basis, the student is now able to consider any modifications which the patient's condition may demand—the high meat protein for the patient with anemia, the high caloric diet in febrile states, low residue in rectal surgery, the high carbohydrate diet in gall bladder disease.

Upon completing these calculations, the student is ready to adapt this diet to her patient by considering his appetite and idiosyncrasies and the food habits built up throughout his lifetime. She will take into account his digestive ability in planning the consistency of the food.

Once she has determined *what* to serve her patient, her problems will take the form of *how* to serve him. In no other phase of nursing care is the psychic element more pronounced. An attractive service will do much to interest a patient who has no real desire for food. In situations requiring a finer technic, the student may be challenged by the problem of discovering the factors contributing to the behavior, and by problems which require imagination and rapport for solution. A technic may be employed which is as simple as providing diversion during meal-time, as prolonged as a program for teaching food values, or it may be an appeal to the patient's emotion through capitalizing on his interest in his family.

The student must not be allowed to overlook her obligations and opportunities for teaching. She must be impressed with the need for preparing the patient for his convalescent period when he will have only his own knowledge of foods to guide him. This preparation should extend throughout the entire period of hospitalization if it is to be made meaningful to him and of lasting value. In planning this instruction she will have available, in addition to her textbook on nutrition and the conferences, government food bulletins and material organized by the public health agencies in our larger cities.

As an illustration of how the Clinical Project may function as an instrument for teaching diet therapy, there have been chosen from a report of such a project, parts which describe the patient's dietary and the problems attendant upon it.

The patient, a man seventy-three years of age, came to the hospital because of a urinary condition. He weighed 185 pounds and was six feet tall. Immediately upon being assigned the care of this patient as her project, the student calculated his weight in kilograms, his energy requirements at thirty calories per kilogram or a total caloric requirement of 2520 calories distributed as carbohydrate, 320 gm., protein 84 gm., fat, 100 gm. With this as a basis, an ideal diet for one day was set up, showing breakfast, dinner, supper, midmorning, afternoon and evening nourishments. This served as a guide in estimating the adequacy of his intake.

This patient proved to present difficult

dietary problems. His history showed his father to have died of diabetes. The patient himself had been on a "diabetic diet" for several years, although laboratory tests following his admission to the hospital did not confirm the diagnosis of diabetes. Keeping this in mind, and also that the patient had lived alone for a number of years, let us consider the problems as described by the student. Excerpts from her report follow:

> It was about the ninth day (of his hospitalization) that the patient began refusing to eat. He said that if he continued to eat the food being given him he would die within two days.
>
> When his doctor had made the diagnosis of diabetes he had given Mr. S. a list of foods which he was not to eat. This included, according to the patient, milk, wheat flour, sugar in any form, potatoes, rice, macaroni, and other "starchy foods". In obedience to the doctor's orders he had eaten none of these foods; but his menu for the past three years had consisted mainly of hominy (79% carbohydrate), peas (15% carbohydrate), beans (60% carbohydrate), eggs, most vegetables and fresh fruits, and pancakes made of cornmeal (75% carbohydrate) and oatmeal (65% carbohydrate) which were eaten with molasses (70% carbohydrate). He bought meat occasionally but did not eat more mainly because he did not especially care for it.
>
> He could not be convinced that he did not have diabetes and maintained that the "starchy foods", particularly potatoes, which we were giving him, would cause him to have pain as they had in the past. Upon further questioning it was discovered that the pain which he attributed to eating potatoes was due to his inability to void. It was explained that this difficulty was being relieved temporarily by his retention catheter and permanently by the operation he would undergo; that it was not due to the food he ate.
>
> Since even this information did not fully convince him and he continued to eat poorly, special trays were served him for a few days. For breakfast he was given either cornmeal or oatmeal, black coffee, and two servings of fruit. He was soon persuaded to eat the whole wheat cereal and the cream of wheat. On the third day of this régime he ate one slice of toast when it was placed on his tray and soon began eating two. For his other meals he was given meat, large servings of vegetables or salad, fruit and tea. He soon began to eat bread, one or two slices a meal. When the menu consisted of foods which he probably would not eat, peas were prepared for him which he seemed to appreciate very much. Gradually a few potatoes were added and he was persuaded to eat them. Eventually he would take anything on his tray if it were served early and he was assured that he could eat all the food. In about a week he was eating a general diet except for milk, and his tray was being served with the others. He had been drinking cream in his coffee but was still hesitant about drinking milk. The point was not urged too rapidly since it had been found that success in persuading him to change his opinions was mainly a matter of time after explanations had once been made. In another three days he ate his ice cream and felt no ill effects, so he has been drinking milk with his dinner and supper since that time. His weight was down to 170 pounds at one time so he was given sandwiches and high caloric fruit juice to bring it up.

Later in the report the student writes:

> Dietary instruction for this patient was that for a normal balanced diet. Diet was a frequent subject for discussion during the patient's stay in the hospital, and he seemed very anxious to understand his instructions and to follow them, once his confidence had been gained. He stated that he had been constipated much of the time the past three years while on the "diabetic diet". He was told to eat whole grain cereal and bread, vegetables, and fruit to correct this trouble. He likes whole wheat bread and can get wheat to grind for cereal. He is very fond of pancakes made of cornmeal and oatmeal and was told he could substitute these for bread or cereal occasionally. He has not been eating much fruit since he was not supposed to eat sugar, but says he likes fruit and can get it. The economy of fruit in season and of dried fruit was stressed. Mr. S. lives in the part of Nebraska noted for apple raising so the question of fresh fruits presents no problem. Vegetables are easily obtained also since he has his own garden. He cans some vegetables himself and buys fresh vegetables during the winter. He has not been drinking milk but said he would use at least a pint a day hereafter. He has been in the habit of eating eggs instead of meat because he has his own chickens. The blood building value of meat was explained to him, and he was willing to include it in his menu at least three or four times a week. The greatest problem in the day's menu was that of desserts. He had been eating no desserts at home and does not care for a very great variety. He likes cookies, ice cream, and some puddings. His desserts can, however, consist largely of fruit since that is satisfactory to him and he needs it to prevent constipation. He has formed the desirable habit of eating three meals a day at regular intervals.

The Clinical Project should be employed early if the most impressionable period of the student's life in the school is to be utilized for shaping desirable attitudes concerning the whole care of the patient. A simple form of project is possible as soon as the student acquires a little knowledge of the normal diet and has had some experience in giving nursing care to patients.

Later, with knowledge of diets used in diseased conditions, and with knowledge and skill in caring for patients presenting more difficult nursing problems, she will be able to do a more comprehensive piece of work.

The student need not be assigned to a diet service in order for her to carry on a project such as has been described. The essential point is that she must care for the patient in some capacity, perhaps in a clinic, perhaps in the hospital ward. Another essential is that there be a working agreement between the dietetic and nursing instructors concerning assignment of projects, the conferences, and the clinical supervision.

Each school will present its own problems in the introduction of the project method. In no school will it prove equally effective on all services; its success will depend upon the interest and understanding with which it is administered.

While it is recognized that individual instruction is more time-consuming than group instruction, it is felt that the hour spent by the instructors in conference is not prohibitive. A short course which

gives the student an overview of such subjects as housing, nutrition, education, and leisure time activities as they relate to public health, and which gives her a glimpse of problems of convalescence, makes this brief conference period fairly satisfactory. The results obtained would seem to justify the use of the project method, especially in situations which lend themselves to the creation and strengthening of those attitudes demanded of professional service.

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THE COLLEGE AND UNIVERSITY TRAINING OF THE DIETITIAN[1]

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THE American Dietetic Association when organized twenty-one years ago had the problem, among others, of specifying desired training for young women who wished to become dietitians. These young women had had varied training in schools of home economics when they apprenticed themselves to hospital dietitians for graduate training. When we consider this early problem compared to the standards set by the organization today, it is evident that much has been accomplished. The untiring work of members of the association has brought about 52 approved hospital courses, 4 administrative courses and one food clinic course. These 57 courses approved last year by the Executive Committee of the American Dietetic Association make possible the training of 434 student dietitians annually. The courses represent the immediate professional future for 434 college graduates who have the approved training, scholarship, and personal qualities for selection to one of these coveted appointments.

While great progress has been made in standardizing the college and university training of the student and the hospital training courses, there is much yet to be done in our college and university training of the young woman who will become a member of a hospital dietary staff. It is a challenging and serious responsibility to those of us engaged in this program. I believe our objective can well accord with that formulated for Iowa State College by the curriculum committee (1) as follows: "It is the aim of the college to help each student, by means of a continuing program of counsel and guidance, to reach its greatest effectiveness through clarification of his purposes, through progression in his emotional, social, and religious development—indeed, in all of his personal and group activities. Through the several courses of study, supplemented by extra-academic programs, it is our hope that society may benefit from the absorption into itself of college graduates who are better, wiser, and more competent than they otherwise would have been—more useful and more completely integrated personalities, better citizens of the state and the nation."

This objective involves more than the provision of a curriculum for the dietetic major which meets the requirements of courses in general, organic, and physiological chemistry; human physiology; bacteriology; the social sciences including psychology, sociology, and economics; an education course in methods of teaching; food preparation with meal planning and experimental cookery; and institution management courses in accounting, buying and management. The objective includes practices which are in operation in many schools of home economics. I wish to present some of these procedures with which I am familiar, and which through observation I have seen to be effective in the college

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training of the student majoring in dietetics.

The first is a system of student counseling. This begins the day the student starts her college career and continues through to the day of graduation. On entering college the student is assigned a faculty counselor. For the home economics student, the counselor is one who has been appointed from the home economics faculty. The counselor advises freshmen and sophomore students on matters which will aid them in making adjustment to college life. Students who fail to make the scholastic average expected of them are interviewed by the counselor. Methods of improvement are suggested and the student's later progress is carefully followed.

During the latter part of the freshman year or early in the sophomore year the student should elect the specialized course she wishes to take during her last two years in college. When she enters on the junior year she is assigned to a faculty counselor who is a member of the department in which she has chosen to major. This counselor continues the work of the junior college and in addition does much to give the student an understanding of the work she has chosen to do. For knowledge of the work will help the student to make a satisfactory adjustment from college life into her first position. The dietetic major, therefore, will know before she graduates that she has selected a profession which may require a seven-day week and long hours; that she may meet hospital patients who are dissatisfied and disgruntled with the diet they must eat; that she may have employees who cannot see the advantage of following a standardized recipe; and that her actual practice in quantity cookery has not ended. It is well for her to know, too, that emergencies have been known to arise when the dietitian has had to prepare the food herself for all the patients in the hospital.

I have had graduates who are now successful dietitians tell me that such a presentation of what they might experience constituted one of the most valuable phases in college training. For the possible and unpleasant features of a dietitian's work had been made known in advance and any illusions dispelled.

The benefits of a counselor system as described have proved useful in enabling the student to have a better understanding of all phases of college experience and the profession she has chosen.

The second practice is the provision of an orientation course, as a required class for all freshmen or new students in the college. Such a course seeks to aid the student in finding the vocation for which she is adapted. During the term the heads of the various home economics departments present the personal qualifications needed for success in a given area of home economics; also the nature of the work; opportunities for placement; and the financial remuneration which the person with training may expect to receive. The student can then judge for herself whether she has the qualities for success in the dietetic profession. The importance of physical health and ability to conserve one's health are emphasized. It is cited that some dietitians will not select a young woman who is less than 5 feet 2 inches tall. The short applicant, therefore, must have other qualifications to make up for this disadvantage. Further, the student considering majoring in dietetics should be an example of good

nutrition. The underweight or overweight student needs to realize that her first problem is to demonstrate ability to control her own physical weight. She should have a genuine interest in food which goes beyond merely a desire for scientific knowledge of food, for she must also have an imaginative sense which will give her the ability to combine the flavors of food harmoniously.

A third practice which one cannot over-emphasize for its value in training the dietetic major, is the use of a personality report. In our Personnel Office such a report is filed for every student by the instructor of each home economics laboratory class.

The personality report sheet lists twenty-one personal traits, characteristics, and abilities on which the student is rated as being much above average, above average, average, or below average. The points on which the student is rated include: appearance and manner, poise, physical vigor, disposition (cheerful or moody), voice quality, power of expression, character, refinement, tact, qualities of leadership, judgment, initiative, industry, resourcefulness, attitude toward work, self-confidence, willingness to cooperate, promise of growth, scholarship, technical ability, and general ability. The instructors rating the students represent not only teachers in food courses, dietetics, meal planning, quantity cookery, but also instructors in textile and clothing, child development, applied art, household equipment, and home management classes.

It is thought by those who have studied personal and social traits of students and their probable future success that it is necessary to have the opinions of four or more trained raters in order to secure a fair rating. Symonds (2) has reported that in order to diagnose personality accurately it is necessary to have a composite rating based on the independent judgments of from five to ten people.

By the beginning of the senior year an average of ten ratings are filed for every dietetic major; and by the time she graduates, an average of fourteen ratings from instructors who have seen the student in varying situations and in unrelated types of courses.

These reports are used in several ways. They are useful to the faculty counselor as they indicate wherein the student is weak. The head of the major department uses them as a basis for conference with the student. A careful examination of all reports for a major, by the department head at the beginning of the senior year, provides a composite picture of the qualities of the student and forms a basis for a conference with her on the appraisal of her abilities. Such a frank discussion with a student is not easy when her qualities are below average. However, the senior year is before her and with proper guidance she will generally make an earnest effort to overcome her faults. We have found the use of these personality reports, as a basis for a conference with a student, productive in aiding her to reach a higher goal than she might otherwise attain.

The composite report of such a rating also serves to eliminate future disappointment for those who do not show promise of success in the hospital dietetic profession.

Another example of the use made of these reports was an instance several months ago when the dietitian in charge of a course for training student dietitians

sent me a blank on which the very personal traits, qualities, and abilities that I have enumerated were to be noted for one of our graduates who was applying as a student dietitian in her organization. The report was to be returned promptly, after a faculty committee of three had conferred upon it. The blank arrived during a college vacation period and a satisfactory judgment could not be secured in the manner requested, without considerable delay. Therefore I made a summary of all of the personality reports on file, ten in number, and returned the information. I should be interested in trying this method of rating applicants in other instances to learn if it offers a desirable means of selecting student dietitians.

The fourth suggestion for the college training of the prospective dietitian deals with a practice followed in some schools and advised by others. In order that the student may determine whether she will like the hospital atmosphere and whether she has the possibilities for success in this profession, and in order to aid her in orientating herself to the hospital environment, it is recommended that the summer vacation between the junior and senior year be spent working in a hospital dietary department. This idea was discussed at the meeting of heads of home economics departments (3) at the American Dietetic Association meeting in Richmond. The recommendation was made "That summer experience of six to ten weeks in hospitals be offered junior and senior students for the purpose of giving these students some idea of hospital dietetics so that they may make their plans accordingly. Many send their students for such experience and others are anxious to make arrangements to do so. Even in a small hospital not accredited for training, the experience enables the student to judge whether she is fitted for the work."

One eastern school which requires a three-month hospital service summer period of its students makes the experience even more worthwhile, by securing information valuable for guidance purposes. A member of the institution management department if possible visits the student at her work, and also confers with the dietitian in charge on the ability of the student. At the close of the period the dietitian sends a written report to the college administrator. This report gives information regarding the student's interest in her work, her application, her eagerness to grasp new principles, her self-reliance, her confidence in her ability to do the work, the speed with which she works, and finally the student's conduct as it pertains to her attitude toward superiors, fellow-workers and other people with whom she comes in contact. This combination of experience and help in guidance seems especially desirable.

The fifth consideration for the training of the student relates to the courses in her curriculum. It concerns the methods used to present courses. Bateson (4) says: "Not *what* is offered, but *how* it is offered, determines whether training courses send out students skilled in performing duties within a particular dietary department, or whether they have enabled the students, through acquiring efficiency in these duties, to formulate a basis for judgment to which all future experience will contribute. Approximately the same variety of experience is offered in all the courses

It is *how* it is offered that makes the difference in the values resulting to students. Certain factors are inherent in student training for which conscious responsibility must be accepted if the highest aim of the course is to be achieved." This statement has been made concerning what should be the aim of hospital training courses. I believe it is as applicable to the undergraduate college courses. In all courses related to the specialized training for the dietetic profession the student should be given every chance to show her initiative, her power of organization, and she should be provided opportunity to solve problems which demand judgment and independent thinking. I shall give some examples from our courses intended to develop these qualities in the student.

One of the first examples comes early in the student's college career. Following two terms in foods class and as a prerequisite for the meal planning course, the student has to pass what is called the "foods practical." This includes submitting a report on two complete weeks of cookery at home done during a vacation; and second, taking a practical examination. The student is assigned to prepare two dishes in the laboratory. She scores her product, and decides if she will submit it to the faculty judge to be passed. She is the one responsible for the decision whether or not her products are acceptable to serve.

Another example is the manner in which our quantity cookery class is organized. The members of the quantity cookery class are the managers of the tea room for the quarter they are enrolled. The class is supervised by an instructor in the institution management department but the student managers decide the plan of work for preparing the food for 125 luncheon guests each day. Student responsibility does not end with the assignment of duties to the members of the class who are to be cook, pastry cook, salad girl, pantry girl, head waitress, and their assistants, but must follow through supervision of the preparation and serving of the food and finally the figuring of the total and portion cost of all food. A profit and loss statement that includes food cost, labor, and all overhead expenses, is submitted each day to the instructor.

In the administration course, a problem is presented each week such as: If your superior told you your food costs were too high, how would you proceed to reduce the cost? If your labor cost was 32 per cent of the income and it had to be 24 per cent to come within your budget how would you secure this reduction? Such questions encourage the student to think in terms of practical situations and to make constructive suggestions which indicate her grasp of the problem. After all students in the class have submitted their written reports on the given problem, it is discussed in class. Thus those who are doubtful as to how administrative problems might be attacked have the benefit of the thinking of all the other members of the group.

The five points which have been suggested as having a part in aiding students to find the field of work suited to their abilities and in training them for positions of responsibility and leadership can be summarized as follows: (1) A system of student counseling. (2) Provision for an orientation course to enable the student to know the work wherein her talents and interest will bring the greatest satisfaction. (3) Rating of per-

sonal traits, characteristics, and ability. (4) Hospital experience for students during summer vacation period. (5) Presentation of college courses in a manner to give practical application and increase value of curricular work.

In other words, education for the dietitian should conform to the dictum of Horace Mann, "Higher education should properly concern the whole individual and not the mind alone."

The highest success of the college and university training of the dietitian will be achieved through the continued cooperation of the personnel in our schools of home economics and that of the dietitians in the field who so willingly aid students by their sincere and able direction.

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TWO YEARS OF NUTRITION WORK IN A VISITING NURSE ASSOCIATION

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The Visiting Nurse Association of Brooklyn, New York

"HOW am I going to feed two children, a husband, and myself on only three dollars a week when that is all the money I have for food?" a patient asked a visiting nurse one day. Another nurse was greeted with: "The doctor says my 15-year-old daughter whose legs are paralyzed by infantile paralysis is too fat and she must lose twenty pounds so she will be able to walk better. But how can she do this without getting sick?" And still another nurse was told: "Everybody has been encouraged to think spinach is good for you and now they say it isn't. Can't they make up their minds about it?"

These and similar questions come up constantly in the day's work of the visiting nurses and they should be answered accurately and clearly to gain the confidence of the patients. The nurse's answers to these questions, however, depend upon her background and the availability of authentic information.

The Visiting Nurse Association of Brooklyn realized this, and knowing that the nurses needed assistance in order to make practical use of long accepted nutrition teachings and the new developments in this field, asked the writer to become a member of their staff in the capacity of nutrition consultant for a trial period of three months. Before the end of the three months the trial period was extended six months, and at the end of this time the nutrition consultant was made a permanent member of the staff.

The nutrition work during the first six months was devoted principally to group and individual conferences with the nurses in the eight sub-stations. The group conferences were held once and sometimes twice a month during the trial period to give the nurses as much help in nutrition as possible. The selection of the subject matter to be discussed was left mainly to the nurses, for they knew what information would be most helpful. Therefore, at their request, different phases of nutrition were discussed, especially the diet for the different age groups and the prenatal diet. Some of the other subjects taken up were the diet of the foreign-born, low-cost foods, budgets, food purchasing, and special diets.

These conferences generally lasted an hour, and were held either in the morning before the nurses went to their districts, or on their return in the early afternoon and before they started out for their afternoon's work. Either the case-study or the discussion method was used in presenting the material. The sessions were always informal, permitting questions to be asked at any time during the conference as well as at the end when time was set aside for questions. A summary of the material discussed was left in the sub-stations for reference so that the nurses need not take notes unless they particularly wanted to. This summary was usually in the form of a résumé, a chart, table or set of menus.

The individual conferences were held once a week in each sub-station and gave each nurse an opportunity to discuss the

problems of her patient with the nutrition consultant. These conferences afforded the consultant an excellent opportunity to help each nurse with her own diet, on the assumption that if the nurse has good dietary habits, she will more convincingly persuade her patients of the importance of good nutrition in order to keep healthy.

To help the nurses as much as possible with their own diets, each was asked to keep a record of her diet for a week. Besides the menus, this record was to include the time of the meals, the amount of food consumed, and the water intake for each day. The nutrition consultant then wrote her comments on the records, especially emphasizing the good points and also showing where improvements could be made in the choice of food, regularity of meals, intake of water, and other pertinent points. They were then returned to the nurses and discussed generally in group conferences held in the sub-stations. Those who needed extra help with their diets were given individual assistance. It has been gratifying to have the nurses report improvements or changes in their diets which have resulted in their being less fatigued at the end of the day's work and less susceptible to colds or other illnesses.

It may be worthy of note here, that not only were the nurses becoming so aware of the import of nutrition that they were often heard discussing their diets among themselves, but everyone else in the association grew quite intelligently concerned with what she was eating. This interest has continued.

The benefits derived from group or individual conferences, especially the latter, depend upon the nurse's understanding of their purpose and the use made of them. On the whole, the response has been good, not only in interest during the lessons but also in the application of newly acquired knowledge. Perhaps this latter point has been brought out most strikingly in the work with the foreign-born families. The nurses find they get better results in teaching these families food selection if they show them how to supplement their native foods, thereby making their diet more adequate. The nurses find that these families buy more domestic and less imported foods as they become more familiar with the domestic variety.

This type of educational program in nutrition was carried on for six months. Then it became necessary to coordinate it with the other staff educational programs. A committee, including the nutrition consultant, was appointed to work out programs for staff education for the spring and fall months when the nurses are less busy. In doing this the number of group nutrition conferences were reduced, making it necessary to devote more time to the individual conferences.

With this change in the educational program the nutrition consultant now has more time not only for the individual conferences but also for visits to the patients with the nurses. Her schedule now permits more time for demonstrations, work in the clinic of one of the large Brooklyn hospitals, special work with the maternity and orthopedic nurses of the association, radio talks, talks to auxiliary groups, and other activities.

In teaching nutrition, special diets or budgeting, sufficient educational material should always be available. In order to have uniformity in the material

used in the sub-stations and bring it up-to-date, all such material which had accumulated in the sub-stations was collected, carefully examined, and obsolete or less useful material discarded. The selected data and that added by the nutrition consultant were mounted on heavy drawing paper and attractively arranged in loose-leaf scrap-books. Each book contains inexpensive menus including some suited to different nationalities, with accompanying market lists and recipes, interesting and useful information on nutrition, budgeting and marketing, special diets, food value charts, the schedule for the public relief allowances for New York City, and other helpful information. New material is added as needed. For instance, when certain illnesses are prevalent, such as whooping cough, an insert giving a suggestive diet with menus and information relative to the diet or pertaining to the diet in relation to the illness, is placed on the bulletin board in each sub-station and the attention of the nurses is called to it. After this has remained on the bulletin board for a week or so, the insert is then put into the scrap-book. All such data is arranged in the most concise form possible as the nurses have very little time for reading while they are in the sub-stations.

Illustrative material, such as Dr. Mary Swartz Rose's share sticks, has been used successfully in teaching food values to nurses and various groups. The nutrition consultant worked out some food value charts, which are based on these share sticks and represent the per cent or shares of calories, protein, calcium, phosphorus, iron, and the vitamins in an average serving of twenty-five or more foods such as milk, oranges, potatoes, white and whole wheat bread, kale, oatmeal, and so on. The nurses find these cards helpful in teaching their patients the nutritive values of foods. One nurse thus convinced an Italian mother that whole wheat bread has considerably more nourishment than white bread by showing her the cards representing the whole wheat and white breads and letting her see for herself the difference in their nutritive value. Another persuaded a patient who was suffering from anemia to substitute beef for veal liver which she could not afford, by showing her that beef liver contains more iron than that from veal.

Demonstration can be a very effective way of illustrating points. One of the most effective was a series of seven eight-cent luncheons which the nutrition consultant prepared and served to the nurses and the board of directors of the association to show that low-cost foods can be made appetizing, attractive, and interesting, and also furnish adequate nourishment.

The eight cents, or the cost of the food per person, represents the regular allowance for food for a single meal for a woman with a family on public relief in New York City. The luncheon menus, three being for cold and four for hot weather, were worked out on the basis of cost and nutritive value of the food and to represent about one-third of the daily requirement of nutrients for an average woman doing a moderate amount of work. The menus also had to conform to the limited cooking facilities available, and called for a further demonstration to show that families can use whatever equipment they have and yet obtain good results.

For each luncheon there were attrac-

tive hand painted place cards which listed the menu, total cost of the food, cost per person, number of calories, amount of protein, calcium, phosphorus, iron, and vitamins per person; and for comparison, the average daily requirement of each nutrient per person was included.

The most popular cold weather menu was corn chowder, cole slaw, whole wheat bread and butter, and stewed prunes. The most popular hot weather menu consisted of double-decker sandwiches made with three slices of buttered rye bread filled with cottage cheese and chopped pickled beets, and egg salad with sliced tomatoes and, for dessert, fresh peaches. An extra cent was added to the cost of the hot weather luncheons for iced tea with lemon, for the weather was particularly hot at the time and the nurses asked for this addition.

The purpose of the luncheons and their preparation were explained after each meal. It was gratifying to see the interest shown and the impression the luncheons made on the guests. It was obvious that they had a much better understanding of the use of low-cost foods and the ways in which a little money could go a long way. Each guest paid for her own luncheon.

Following one of these demonstrations, a nurse told one of her patients that she had just eaten an eight-cent luncheon. The patient who was trying to feed her family of six on six dollars a week for food asked how she could get meals costing so little. In order to help this patient with her inadequate food budget the nurse gave the patient a copy of all the eight-cent luncheon menus which had been served to the nurses, as well as other inexpensive menus, a suggestive market list for the week and other help in buying food to the best advantage.

The Maternity Center of the Visiting Nurse Association is affiliated with one of the large clinics in Brooklyn where there is an excellent opportunity to do nutrition work with pregnant women who come to the clinic for examination. The nutrition consultant keeps in touch with such patients carried by the maternity and general nurse. The women are visited by the nurses once a month up to the seventh month, after which they are visited more often until the time of delivery when they are visited daily for a week or so. Such cases give an opportunity for follow-up work in nutrition which is not always possible with other cases carried by a visiting nurse association because of the limited period which a case may be carried by a nurse.

Besides the prenatal follow-up work in diet and nutrition, there are the orthopedic patients who are carried for long periods of time. Many of these, such as patients suffering from infantile paralysis, are visited as often as three times a week by the orthopedic nurses. The nurses teach their patients, as a part of their treatment, that by improving their nutrition they can also improve their condition. Good results have been obtained as shown by the following cases:

A ten-year-old girl with infantile paralysis who was considerably overweight was given a reducing diet worked out according to her needs. Upon this diet she lost seven pounds in as many weeks. With less weight to carry around the patient was able to walk with greater ease using her braces.

A woman aged twenty-one suffering from hemiplegia had lost the use of her left arm and leg. She refused to eat and drink much of anything other than bread, spaghetti and coffee, was very emaciated and anemic-looking, morose, irritable, and made no effort to help exercise her leg or arm. This continued for six months or more, with the nurses making every effort to help the patient to help herself; finally, weary of hearing them talk about her need for more nourishing food and for exercising her muscles, she decided to cooperate, with the result that she now eats three fairly adequate meals a day, has gained weight, looks and feels better, is much less irritable, has quite a different outlook on life, is able to raise her arm almost up to her head, and is beginning to walk again.

Four of the sub-stations have active auxiliaries to whom the nutrition consultant has given ten or more talks on nutrition during the past year. The members of the auxiliaries have taken an active interest in the nutrition program and in many ways have helped to further the work.

It has been possible for the nutrition consultant to do quite a little publicity work and thus expand her teaching of good nutrition as a preventive measure in public health work. This has included the writing of articles on nutrition and marketing for newspaper publication and for radio talks.

During the past two years in which emphasis has been laid on the nutrition work of the Visiting Nurse Association of Brooklyn, the nurses are growing more and more convinced that nutrition and diet are important parts of the nursing care they give their patients. Because of this, patients plan better meals for their families and those on limited food allowances are able to budget their money to better advantage.

EDITORIAL

Annie L. Laird

Annie L. Laird, honorary president of the Canadian Dietetic Association, professor emeritus since her retirement three years ago and formerly professor of household science of the University of Toronto, died on June 1, 1939 at her home in Toronto.

Miss Laird, a beloved and honored member of both the Canadian and American Dietetic Associations, was a charter member of both organizations, and was further distinguished in having made the motion in Cleveland on October 20, 1917, that "a national association, to be known as the American Dietetic Association, be formed". Later Miss Laird served as a member of the American Dietetic Association's Executive Committee.

It was nearly forty years ago that Annie Laird headed a small private cooking school in Toronto. During the many years of her active professional life she was to see this small nucleus grow to its present dignified status as a department of a university. From it she has seen women trained in the science of nutrition and home economics go forth to teach and practice their knowledge of better feeding and more skillful household and institution management throughout the country.

Born sixty-seven years ago in Fergus, Canada, Annie Laird, following her graduation from Drexel Institute, Philadelphia, was for thirty-four years head of the Department of Household Science of the University of Toronto. Her gracious and gentle charm of manner and her devotion to her professional ideals combined to make her an affectionately esteemed leader among both Canadian and American dietitians. Truly, as was said editorially by the Toronto *Star*, Miss Laird lived a useful life—and one may offer her no finer tribute.

Forward or Backward?[1]

Let three hundred and fifty dietitians speak![1] We speak from twelve states scattered north and south, east and west of the Mississippi. All of us receive copies of the leading professional journal for dietitians, yet less than half of us read this publication from cover to cover. Only one-third of us spend an hour a week reading current literature of interest to dietitians, even though at least three-fourths of us have library facilities available and most of us admittedly have time. Even when we are too busy to go to the library, there are occasional spare minutes during the day when we could read a few abstracts or an article, if the journal referred to above were kept temptingly at hand.

Having honestly taken stock of our endeavors to be alert and abreast of the times, we have several proposals to offer. First of all, there should be at least one hour each week definitely set aside for reading. This is just as important a part of a dietitian's schedule as checking left-overs in the refrigerator, answering the telephone, or interviewing

[1] Data obtained and compiled by the spokesman for the group, Beula Becker Marble, president-elect of the American Dietetic Association (who distributed the questionnaires), and Gertrude McDonald, Peter Bent Brigham Hospital, Boston.

salesmen. We want our reading time to be given the same consideration and respect as conference time, meal hours, or holidays off duty. Reading time should not be infringed upon by other duties nor deflected by innate indifference, or shall we say indolence?

In the second place, we propose to take advantage of the work others have done for us in giving us the essentials of pertinent current literature in the book reviews and abstracts of the JOURNAL of the American Dietetic Association. Those of us who do not have library facilities readily available and those of us who are very busy will find this material particularly useful. It is an excellent starting point for a thorough reading of original articles. The least any of us can do for professional advancement is to read the JOURNAL from cover to cover.

A third point emphasized by many is the true stimulation offered by sharing ideas with others having like interests in discussion groups, conferences, journal clubs, or seminars. Indeed, it is in a group that most of us put the best foot forward, while alone we may lapse into the sweet serenity of routine. In this same connection, conventions, meetings of allied professional groups, lectures, postgraduate study and refresher courses are all important means to professional advancement.

We are cognizant of our shortcomings. We realize that the natural current of forgetting will carry us downstream, that we cannot pull ahead nor even stay where we are without determined efforts to keep up to date and to contribute our share to high standards of intelligent achievement.

NUTRITION IN THE NURSING CURRICULUM[1]

Since 1933, much has been done to clarify the educational aims and standards of nursing schools throughout the United States. The chief outcome of this need was the revision of the curriculum of 1927, and the adaptation of one for the present-day school. This curriculum guide for schools of nursing is intended to assist the individual school in planning its own curriculum.

In revising the curriculum of 1927, it was recommended that greater emphasis be placed on nutrition and food preparation for the well, and the nutrition of the whole family group. Nutrition, foods and cookery, and diet therapy are classified as allied arts of nursing because of their close relationship and also because of their emphasis on technical skills.

The course, "Nutrition, Foods and Cookery" is usually given in the preclinical period following the courses in chemistry and physiology. It has been suggested that 20 one-hour periods for class lectures and 20 two-hour periods for laboratory work are sufficient for this basic course. It is advisable to place emphasis on the principles of normal nutrition and those involving the care and preparation of foods. This will aid the student in caring for the health of herself and those whom she as a nurse will assist in teaching. Here it is that the nurse probably obtains her first knowledge of an adequate diet. Out of

[1] Based on a paper by Elizabeth A. Fitzpatrick, R.N., Assistant Professor of Nursing, Mount Sinai Hospital, Philadelphia, read before the Pennsylvania Dietetic Association, Hershey, Pennsylvania, May 12, 1939.

this she can make adaptations if the occasion arises.

There need be little overlapping of subject matter if the instructor in charge of this course cooperates with instructors in clinical teaching and bedside supervision. The instructor in nutrition should be aware of what is being taught, especially in anatomy and physiology, chemistry and the nursing arts. Whenever possible the several instructors should discuss their plans before making out their course outlines. Thus much repetition can be avoided and monotony obviated. Students not infrequently say that their lack of interest in class has been due to repetition of subject matter.

Whenever possible, the same instructor of the basic course in nutrition should teach the course in diet therapy. If diet is to be used as an agent in the treatment of disease, the student must first know something about the disease in question. Diet therapy, therefore, should follow closely the courses in medical and surgical conditions, and should run parallel with the nursing care of these conditions. In some schools the content of this course is arranged in units which consider the diet therapy in relation to disease conditions of the various systems of the body. Anatomy and physiology and the nursing arts are usually taught according to the systems of the body and it seems a logical method of procedure. However, various methods may be instituted with equally good results.

In some schools it is impossible to teach the course in diet therapy concurrently with those in medical and surgical nursing. In such instances there should be an arrangement by which conferences with the student may be planned in connection with the diseases previously taught. Thus the student is enabled to see the relation of diet as a therapeutic agent along with other agents of therapy in the nursing care of the patient.

The best method for teaching diet therapy would include class room lectures, discussions, laboratory practice, conferences and case studies. Case studies have a definite place in the teaching of this subject and frequently stimulate interest which otherwise might be lacking.

If the student is aware of the objectives of this course, she should to a certain extent acquire:

1. Some conception of the significance of dietary modifications in treating diseases and the reasons for using diet therapy in connection with treatments ordered by the doctor for a patient.
2. The capability to evaluate a diet and its use as a treatment in disease.
3. Some ability to apply the principles of diet therapy in selecting foods for diets.
4. The ability to instruct patients as to their dietary needs.
5. The requisite skill to select, prepare and serve food for the best therapeutic results.

The facilities at hand for this course will no doubt be as varied as the types of hospitals in which the courses are taught. One cannot set down a hard and fast rule for all hospitals. However, standardization of the course within a given area should, as far as possible, be considered, since all these students take the same state board examination.

The suggested time allotment for this course is about 30 hours. This allows 16 to 18 hours for class lectures and 12 to 14 hours for laboratory work. These hours may be changed as the instructor sees fit. Following this course a period of 4 to 6 weeks should be planned in order that special diet therapy practice could be carried out in the hospital wards. Practice on the medical, surgical, obstetrical, pediatric and outpatient divisions should be included. In Pennsylvania a minimum of 42 days of such practice is required for a student nurse.

In instances where the diet is modified to meet the disease conditions of the patient, it seems important that the student be present at the serving of these trays. This is best carried out under the direct supervision of the therapeutic dietitian. Here the student should have the opportunity of interpreting orders for diets, checking trays, visiting patients to determine their likes and dislikes, charting diets, giving instructions for carrying out diets at home, and writing case studies. Too frequently do we find that the student has no idea how to interpret or chart a diet.

Since the education of the nurse should include some knowledge of the daily lives of patients in their home environment, it is important that she have an opportunity to work in the outpatient department's nutrition clinics under the guidance of the dietitian in that division. Here there is a wide opportunity to teach the prevention of disease and the maintenance of positive health in which diet plays an important rôle. It should be kept in mind that the present-day function of schools of nursing extends far beyond the hospital wards and the sick patient.

The maternity department is another hospital division where little attention has been focused on dietary needs. We are aware that nursing service and nutrition have to be especially adequate for the type of care required in a maternity division. It is advisable, too, that the student have an opportunity to work in the prenatal clinic for thus she can follow through with the normal and abnormal cases in pregnancy.

Our program is incomplete if we fail to include the pediatric division in the student's practice period. Too little attention has been given to the diets for children of different ages. A medical survey in a certain small community showed that one-third of the 1800 school children examined were poorly nourished, and less than one-third were considered really well nourished. What an opportunity for real service is afforded by the children's ward! Yet few hospitals give more than 6 hours of class lectures in children's diets. This is but one of the several factors in our teaching of the student nurse which are worthy of careful consideration in the future.

Fifth Annual Conference of Food Service Directors

The Lord Baltimore Hotel, Baltimore, Maryland, November 2–4, will be the scene for this annual gathering of school lunchroom managers, directors and others concerned with the technical aspects of school lunchroom management and its implications in the social, educational and health advancement of children.

The topics to be presented before this young, enthusiastic and rapidly growing group of managers and educators will be broad in scope, covering not only past accomplishments but current and future

developments in the field. Authorities of note in the science of nutrition, among them Dr. E. V. McCollum and his associate, J. Ernestine Becker, and Marjorie Heseltine, nutritionist of the Children's Bureau, U. S. Department of Labor, will present their views. Special attention will be given to the lunch problems of the rural and consolidated school and a report symposium from rural areas will be presented by a group of five speakers.

Dr. Mary de Garmo Bryan, who is responsible for much of the newly awakened and broadening interest in the school lunch as a means of practicing and teaching the principles of good nutrition, will speak on education through the school lunch. While as at previous sessions of the Conference, the key-note will continue to be the propagation of the doctrine of good nutrition throughout the school system by means of the trained nutritionist and dietitian, the more practical aspects of achieving this will not be overlooked. Menu-making and cost control will be discussed by Quindara Oliver Dodge; personnel, equipment and layouts for school lunchrooms, by Winning S. Pendergast; and studies of plate lunches, and fish and fish products, by Frances Livingston Hoag and Alma Bering.

Members of the Conference will put into practice a tenet of their daily work, that observation is the best teacher, and will visit the commissary of the Naval Academy at Annapolis, the Maryland Government House, and the food services of various restaurants, school lunchrooms, and industrial plants. It should be a most profitable meeting to all dietitians and others concerned with large-group food services.

CURRENT COMMENT

Vitamin B_1 Content of Seven Ward, House, and Therapeutic Diets[1]

Due to the widespread interest in vitamin B_1 and the belief that the average diet is low in this vitamin, we decided to analyze some of the diets of our ward patients. The food was weighed before serving and any food returned on trays was weighed to determine the total amount consumed.

Since no chemical method for the estimation of vitamin B_1 has as yet been generally adopted for the analysis of foodstuffs, we used Williams and Spies' tables for the vitamin B_1 content of food appearing in *Vitamin B_1 (Thiamin) and Its Use in Medicine.* They base their analyses on the thiamin content of food, using 3.3 micrograms of thiamin as the equivalent of one International unit. Since methods for determination of vitamin B_1 vary, and the value of the International unit has been found to fluctuate between 2 and 5 micrograms of thiamin, this seemed a happy medium. At present, the vitamin B_1 analyses of any diets should be considered only an approximation.

I believe it is generally accepted for clinical use that 300 International units is the standard minimal adult requirement of vitamin B_1 for the maintenance of good health. Most authorities are agreed that a more accurate index of the individual requirement is the vitamin B_1

[1] Read before the Philadelphia Dietetic Association, February 28, 1939.

or thiamin-calorie ratio. Williams and Spies state that since it has been fairly accurately determined that the requirement of vitamin B_1 increases with the amount of carbohydrate consumed and falls with an increase in the proportion of fat in the food, the best tentative index of adequacy is the thiamin-carbohydrate or non-fat calorie ratio. They also state that fat has a vitamin B_1 sparing action. Since in our diets only the calories and vitamin B_1 were determined, we could show only the thiamin-calorie ratios, the standard of which is 1.5.

For our analyses we chose at random seven patients, four on full ward house diets and three on therapeutic diets, one on a high-calcium, low-phosphorus diet and two on diabetic diets. We analyzed the diets for one week and computed the average daily diet as given and as taken.

Patient 1. Female, age 16 years, weight 105 pounds, on house diet.
Diet as given, 2023 calories = 282.7 I.U. vitamin B_1 or 1/.46
Diet as taken, 1448 calories = 215.2 I.U. vitamin B_1 or 1/.49

Patient 2. Female, age 18 years, weight 107 pounds, on house diet.
Diet as given, 2331 calories = 317.4 I.U. vitamin B_1 or 1/.45
Diet as taken, 1657 calories = 253.9 I.U. vitamin B_1 or 1/.5

Patient 3. Female, age 24 years, weight 120 pounds, on maternity ward.
Diet as given, 2279 calories = 300.7 I.U. vitamin B_1 or 1/.43
Diet as taken, 2100 calories = 282 I.U. vitamin B_1 or 1/.44

Patient 4. Male, age 44 years, weight 150 pounds, convalescing from pneumonia.
Diet as given, 2230 calories = 264.7 I.U. vitamin B_1 or 1/.39
Diet as taken, 2157 calories = 256 I.U. vitamin B_1 or 1/.39

Patient 5. Male, age 43 years, weight 146 pounds, with hypo-calcemia and on a low-phosphorus, high-calcium diet. (Because of low-phosphorus intake allowed, no whole grains or meats were given.)
Diet as given, 3392 calories = 364.2 I.U. vitamin B_1 or 1/.35
Diet as taken, 3227 calories = 357.8 I.U. vitamin B_1 or 1/.36

Patient 6. Female diabetic, age 54 years, weight 148 pounds, C. 150, P. 70, F. 40.
Diet as given, 1240 calories = 304.6 I.U. vitamin B_1 or 1/.81
Diet as taken, 1230 calories = 302.2 I.U. vitamin B_1 or 1/.81

Patient 7. Female diabetic, age 52 years, weight 135 pounds, C. 150, P. 60, F. 40, increased in the middle of the week to 200 — 75 — 90.
Diet as given, 1504 calories = 272.4 I.U. vitamin B_1 or 1/.59
Diet as taken, 1459 calories = 268.7 I.U. vitamin B_1 or 1/.60

We admit these results are somewhat superficial since they were carried out on such a small group of patients. They do indicate that diets based on the so-called adequate foundation diet may be low in vitamin B_1. The daily foundation diet includes one pint of milk, one serving of meat, one egg, two to three servings of vegetable, two to three servings of fruits (one citrus or tomatoes) one ounce butter, one serving whole grain cereal or bread, 2000 to 2500 calories and 65 gm. protein.

There are no super-rich sources of thiamin among the common foodstuffs so that one cannot so readily increase the vitamin B_1 intake as, for example, the vitamin A intake by the simple expedi-

ent of including suitable amounts of butter. Wheat germ and yeast are used but these are not foods in the ordinary sense. The best sources of vitamin B_1 are whole seeds, pork, milk, liver, heart, kidney. The results indicate that an effort should be made to include more of these foods in the diet. —FRANCES L. SWENSON, *Therapeutic Dietitian, Mount Sinai Hospital, Philadelphia.*

PARTICIPATION OF A FOOD CLINIC IN MEDICAL STAFF CONFERENCES

In May, 1935, the director of the Beth Israel Hospital Out-Patient Department, Boston, requested the chief of the Food Clinic, as an integral part of his department, to participate in the Medical Staff Conferences. At each of these conferences, held twice a month, cases of special interest are presented by the medical clinics of the Outpatient Department, such as the pulmonary, arthritic, gastro-intestinal, endocrine, diabetic or nephritic. The Social Service Department also participates and presents special medical-social problems. The conference, which includes general discussion, lasts one hour and is open to members of the medical and surgical staffs, house officers, medical students, nurses, social workers, dietitians and any other interested hospital workers.

The first Food Clinic presentation considered the relation of the clinic to medical treatment in the Outpatient Department and demonstrated that the food prescription of the doctor must be interpreted to the patient in terms both of specific nutritional needs and of particular environmental requirements. Six cases with varying diagnoses were used to illustrate the function and methods of the Food Clinic dietitian. With each it was shown how the outpatient dietitian, after careful study of the medical and laboratory data, constructs a diet in accordance with the physician's recommendations. Next it was emphasized that each diet is adapted to the patient's racial, social and economic background, and to his daily régime. The nutrition history, or the form used on which to note the special factors in each case, was explained to the audience. Two of the cases presented, for example, were those of patients unable to secure the diets prescribed because of inadequate income, and who were therefore referred by the dietitian to the Social Service Department. It was pointed out that the dietitian may refer patients directly to the social service worker, and that the Food Clinic always works in close cooperation with the Social Service Department.

Charts and diagrams used to teach the patient the purpose of his diet in terms of his particular condition, so that he will understand the reason for his dietary régime and thus be encouraged to cooperate, were displayed. Material for the nutritional guidance and instruction of the patient during the interim between visits to the Food Clinic, such as lists of foods written for the individual patient, their combination in menus, specific directions for purchase and preparation of food and a list of substitutes, were also included in the display.

At another medical conference the dietary treatment of a group of cases with the diagnosis of chronic vascular nephritis was discussed. The procedure for constructing the diet for the nephritic patient who is either normal in weight, overweight or underweight, was shown by means of charts. An exhibit

of the protective diet was also displayed and served to demonstrate that the therapeutic diet is merely a deviation of the normal diet. Mimeographed copies of the protective diet were placed on the exhibit table for distribution.

On another occasion, the Food Clinic and the Diabetic Clinic joined in a symposium on diabetes mellitus. The chief of the Food Clinic chose as her subject the vitamin B_1 content of the diabetic diets commonly used in the Diabetic Clinic. Among the points discussed were the relationship between the carbohydrate order and the vitamin B_1 content of the diabetic diet, and the means of increasing B_1 in the diabetic diet.

In summary, it may be concluded that these conferences have extensive possibilities. The Food Clinic dietitian has the opportunity not only to interpret her rôle as assistant to the physician in his medical treatment of the outpatient but also to disseminate new and important data in the dietetic field. Appreciation of these talks by the hospital staff has been manifested by the yearly requests for Food Clinic participation in Medical Staff Conferences. —Rae R. Goldberg, *Assistant, Food Clinic, Beth Israel Hospital, Boston.*

Food Clinic Experience for the Student Nurse[1]

Soon after the Food Clinic was established at the Pennsylvania Hospital in 1932, the place of this clinic in the training school program was recognized. During her diet kitchen service, the student nurse was sent to the Food Clinic for a five-day period. At that time the student had an opportunity to observe the methods used in teaching outpatients and in adapting therapeutic diets to patients of various races and economic status. In 1936 an instructor in public health nursing was added to the training school staff. Each senior student now spends 6 to 8 weeks in the Outpatient Department under her supervision, for it was felt that the nurse could do a more intelligent nursing job if she knew more of the background and home life of the patients for whom she cares. The Food Clinic dietitian was asked to assist in this program.

Soon after each group of student nurses begin their public health service, they meet with the dietitian for a discussion. The foods which are required for an adequate diet and the cheapest sources of each are presented. The discussion covers foods most commonly used by the racial or foreign-born groups attending the clinics, and the ways in which they are prepared. The good points of each characteristic diet are emphasized. The protective foods and ways in which the patient may be encouraged to use them are among the problems discussed. This informal lecture is designed to assist the student nurse in teaching the patient good nutrition as she visits the patient in the home.

A scrap-book containing samples of the many printed and mimeographed pamphlets which have been found to be of value in teaching patients, is placed at the nurse's disposal. She finds these of value in teaching the patient and soon learns where each is most helpful.

Each morning the student dietitian

[1] Read before the Pennsylvania Dietetic Association, Hershey, Pennsylvania, May 13, 1939.

from the Food Clinic conducts a class for pregnant women. The foods which are required during pregnancy and the reasons they are needed are explained in simple terms which the patient may understand. The student nurse on public health service attends this class before she begins visiting prenatal patients in the home. She is able, therefore, to follow the patient more closely than can the dietitian, to answer any questions which the patient may have, and to emphasize points which the patient has not grasped during the class meeting. Whenever the nurse has any questions regarding diet in relation to her patients she may bring them to the Food Clinic dietitian.

It is desirable that the student learn, during her public health service, how therapeutic diets may be adapted to the ambulatory patient. The student accompanies the patient to the physician and listens during the interview. After this is completed the student nurse attends the patient's interview with the dietitian. If it is a new patient she listens while the dietitian takes the nutritional history and during the diet instructions. This gives her an opportunity to learn more of the food habits of different patients, the way in which the diet may be adapted to satisfy different patients' likes and dislikes, as well as economic and social factors which must be taken into consideration. She learns that it is not so simple for the average patient to follow the routine so readily carried out for him in the hospital, when he returns home.

The Diabetic Clinic has proved especially interesting to the student nurse as she is able to participate in the instruction of the patient. After the patient has been weighed the student listens to, and may even participate in the discussion of the patient's diet or while a food intake is being figured.

The next part of the routine is performed by the nurse herself. She is responsible for the inspection of the patient's feet and for instruction in foot hygiene. However, during this inspection she often discusses the diet with the patient and many times is able to secure information which the patient was unwilling to divulge to the dietitian.

Although the Food Clinic dietitian instructs the patient in the technic of administering insulin it is the student nurse on public health service who goes into the home to observe the patient or a member of the family the first time they give the hypodermic. While in the home she discusses the diet as well as other phases of diabetes with the patient and his family to be certain that the dietitian's instructions have been understood. So far as the nurse is concerned it is excellent experience. She can observe the surroundings in which the patient lives, the attitude of members of his family toward his illness, as well as the equipment available for food preparation and care of the patient. Here she sees the patient outside the hospital environment. In order to be of assistance to the patient she must know all phases of the treatment which the patient is receiving.

The Renal Calculus Research Clinic has also aided in this program of instruction. The nurse observes during

the physician's catheterization and treatment of the patient. She learns the *p*H of the patient's urine that day and is told by the physician what it should be and why he desires to keep the urine reaction at a certain point. She then accompanies the patient to the Food Clinic and participates in the discussion of the patient's diet. Usually when the *p*H of the urine is not that desired, it is because the patient has failed to follow the prescribed diet. The nurses have often been able to impress the patient with the importance of following the diet.

The general feeling of those participating in this program is that it is of great value to the student nurse. There is much more to be done to develop it to the point where the nurse will complete her public health service with a full appreciation of the problems met by patients outside the hospital. Her knowledge of nutrition, at least, has been enlarged by her Food Clinic experience.

Few hospitals have as yet included public health nursing as a part of the training program, and even fewer hospitals have food clinics. However, even in the small hospital there is usually at least one clinic attended by a dietitian where there might be some instruction of student nurses. Dietitians must realize that if we are to spread sound nutrition information we must teach more people who stand in positions of authority in health matters, and our work with student nurses affords the best opportunity. We should take more advantage of it.—MARTHA E. TARBOX, *Food Clinic Dietitian, Pennsylvania Hospital.*

SHOULD INSTITUTIONS MAKE OR BUY THEIR ICE CREAM?

Student dietitians of the Massachusetts General Hospital, Boston, who were studying the comparative merits of making and purchasing ice cream, sent a questionnaire to a representative list of twenty-eight hospitals relative to the policies of each hospital regarding this problem. According to Marion D. Floyd, chief dietitian, twenty-one hospitals returned the desired information from which the following summary was obtained:

> Fourteen or 70 per cent make their ice cream; six or 30 per cent buy their ice cream; and one hospital at present is buying the product but is experimenting in order to determine which is the most practical for them.
>
> Of those making their own ice cream, 84 per cent buy their mix and 14 per cent make their mix.
>
> The butter fat content of the institution-made product ranges as follows: 33 per cent make a product of 14 per cent butter fat; 40 per cent, one of 12 per cent; 13 per cent, one of 10 per cent; and 8 per cent make a product of 11 per cent butter fat.
>
> The average cost of making the ice cream within the hospital is $0.552 per gallon; the range is from $0.33 to $0.72.
>
> In only four hospitals was additional labor needed and stated as follows: "additional"; half-time; three-quarter time; and full time.
>
> Of those purchasing thin ice cream, the replies showed the average cost to be $0.79 plus per gallon with a range of $0.58 to $1.12.
>
> In all but two instances the replies indicated the superior quality of the hospital-made ice cream when compared with that purchased.

BOOK REVIEWS

The Newer Knowledge of Nutrition. By E. V. McCollum, E. Orent-Keiles, and H. G. Day. New York: The Macmillan Company, 1939, pp. 701. Price $4.50.

This familiar book has been completely rewritten for the first time since 1929. It is written in an easy, interesting style and should be in the library of every member of the American Dietetic Association.

The first six chapters comprise approximately one-fourth of the book. They are introduced by a chronological listing of significant milestones in the progress of the science of nutrition and by a chapter summarizing the present concept of the essential constituents of the diet. Then follow discussions of three components of the diet—carbohydrates, fats and proteins—their chemical nature and reactions in the body and their significance in nutrition.

The next five chapters survey present knowledge of minerals in nutrition, their occurrence and functions in the body, food sources, daily requirement and various factors affecting their metabolism and utilization. Thyroid abnormalities are discussed in connection with iodine as are various anemias in connection with iron needs. A chapter is devoted to "trace elements" in nutrition.

It would be expected that a considerable portion of the book, twelve chapters in fact, would be devoted to the vitamins in view of the enormous amount of recent research in this fascinating field and the amazing discoveries of the past ten years. These dietary essentials, steadily increasing in the number known to exist but not now so elusive, are treated in a logical, practical, masterly way.

The last one hundred pages are devoted to human nutrition problems and to descriptions of faults and advantages in types of diets used by masses of people all over the world. One of Dr. McCollum's big contributions as a teacher of nutrition has been his constant and absorbing interest in the application of developing knowledge to the solution of human nutrition problems and to the explanation of large scale nutrition failures or successes throughout the world. The chapter on diet in relation to the teeth is splendidly written in fairness to all prevailing theories.

The authors have omitted details of historical development of each topic, including just enough to form a suitable background for the present-day newer knowledge of nutrition. Each chapter contains an excellent bibliography which includes references to significant studies up to the summer of 1938.

One of the many valuable features of the book is the presentation in each chapter of discrepancies in available data and of information still lacking. Students who read the book carefully will appreciate the skill of the authors in evaluating the reports of research in the many phases of the nutrition complex.—MARTHA KOEHNE, PH.D., *Nutritionist, Ohio Department of Health.*

The Metabolism of Living Tissues. By Eric Holmes. Foreword by Sir F. Gowland Hopkins. Cambridge University Press, 1938, pp. 235. Price $2.25.

For students of biochemistry, nutrition or medicine, this highly original little book provides an entertaining survey of the most significant facts and theories in our present knowledge of the chemistry of living things. The author gives evidence that he is not only an experienced teacher, but a successful one in being able to make his subject vital. He emphasizes the metabolic activities of various organs rather than the substances which their actions transform. He pictures chemical reactions taking place in living tissues, and not on the blackboard. His approach makes it easy to visualize the active and dynamic aspect of tissue metabolism, the sequence of the various processes and the logic of the end results. The author has omitted irrelevant details, but includes enough experimental evidence to support his thesis. He does not interrupt his story with an extensive review of the literature; he gives no footnotes or bibliography; he tells a straightforward, connected story of a technical subject in a style which, as Professor Hopkins has said, "encourages the reading of the book straight through from cover to cover".

Two brief quotations from the chapter entitled "The Correlation of the Metabolism of Different Tissues" emphasize the complexity

of the endocrine system, and the gaps in present-day knowledge:

> The rapid interplay of these hormonic influences (adrenaline hyperglycemia appears in a matter of seconds or minutes after injection) suggests that the endocrines themselves must be subject to some sort of coordinating machinery, and we should naturally look for such machinery in the central nervous system. Experiment has revealed its existence, though the picture we have of its action is doubtless a very partial one.
>
> The details of the action of the anterior pituitary hormone have not yet been sufficiently worked out to warrant more than the statement that it is antagonistic to insulin. . . . Indeed, one cannot help wondering whether, had it happened that the discovery of this action of the anterior pituitary had preceded experimental removal of the pancreas, diabetes would not have been regarded primarily as a disturbance of the anterior pituitary function rather than that of the pancreas.

The forceful style of the author is also illustrated in his discussion of the duties of the liver in dealing with material absorbed from the alimentary canal. He calls attention to the numerous substances other than food which must be dealt with or disposed of by the liver cells, and concludes, "It is remarkable testimony to the resilience and versatility of the organ that hepatic disease is not far commoner than it is".

In spite of its entertaining style, this book was not written for the layman, but demands a thorough background in both biochemistry and physiology to be appreciated. It supplements, rather than replaces, the usual textbook presentation of biochemistry. For a student of these subjects, however, it stimulates scientific curiosity and imagination beyond anything of the type which the reviewer has previously read.—HELEN S. MITCHELL, PH.D., *Research Professor in Nutrition, Massachusetts State College, Amherst.*

Anemia in Practice. By William P. Murphy, M.D. Philadelphia: W. B. Saunders Company, 1939, pp. 344. Price $5.00.

The author discusses anemias under three main headings, hypochromic, normocytic and pernicious. Under hypochromic anemias he includes those characterized by iron deficiency. Such anemias may result from undue loss of blood, extra demands of the fetus in pregnancy, insufficient ingestion of iron, inefficient utilization of dietary iron or of bodily stores, or disturbance in function of the bone marrow. Dr. Murphy expresses the belief that there is no indication clinically that the addition of copper to iron medication is "beneficial or necessary for the satisfactory treatment of hypochromic anemia of the adult patient." He gives as probable reasons the presence of copper in most commercial iron salts and in the protective foods included in types of therapeutic diets prescribed.

The second group of anemias, the normocytic, includes various forms of hemolytic anemias.

More than three-fourths of the book, however, is devoted to problems connected with pernicious anemia, its incidence, cause, diagnosis, prognosis, treatment and common complications. Dr. Murphy's years of research and his remarkable contributions in this field in collaboration with Dr. Minot, and his enthusiastic interest in the subject and the army of patients he has successfully treated, make his presentation of the subject of pernicious anemia invaluable scientifically and practically, besides being intensely interesting.

Tables are refreshingly few in number, brief and to the point. Graphs are well selected and constructed, with clear, understandable legends. He has shown his keen appreciation of the importance of visual education methods as a teaching aid in the excellent illustrations that appear on pages 106, 107 and 118. Colored micro-photographs of blood cells illustrate the three main forms of anemia in contrast to the normal blood cell picture.

The author says he wrote the book for the benefit of the busy practicing physician who does not have time to select from the voluminous reports of research dealing with the diagnosis and treatment of anemia, the facts of most help to him in dealing with his occasional anemic patient, or who does not have access to the needed current medical journals in which they appear. He also has recognized the need for such a book among medical students and interns. The book is very easily read and should accomplish the author's hope that the material would be presented "with such clarity and conciseness" that it would be "conveniently available for practical application." The book will also be valuable for teachers of nutrition

and of physiological chemistry and as a reference book for therapeutic dietitians.—MARTHA KOEHNE, PH.D., *Nutritionist, Ohio Department of Health.*

You're the Doctor. By Victor Heiser, M.D. New York: W. W. Norton & Company, Inc., 1939, pp. 300. Price $2.50.

Dr. Heiser's new book, already in the lists of non-fiction best sellers, is written in the same friendly, informal and conversational style of its predecessor, *An American Doctor's Odyssey.* Those who were fortunate in hearing Dr. Heiser at the Cleveland meeting of the American Dietetic Association in 1935 had a foretaste, in his address, of that now widely known first book. To this extent the association "discovered" Dr. Heiser, and now he has revitalized the import of nutrition to the many who assuredly will read his new book. For this is almost entirely a panegyric to nutrition as the most important factor in maintaining good health. As Dr. Heiser says, "sensible clothing, suitable exercise, pleasant relaxation enter into it, but the pivot around which all these revolve is correct eating".

The book under review is replete with sage observations and narratives of Dr. Heiser's experiences in his journeys. He repeatedly delivers such homilies as "The human race still digs its own grave with its teeth" and follows these up with statements confirming these age-old proverbs with modern factual statements such as "I could prescribe a diet for you which you would think was not at all unusual, and predict in advance any one of a half dozen diseases that you might contract as a result. This is based on three recognized factors that can be substantiated by scientific evidence."

Again, he quotes Voltaire, "The fate of a nation has often depended on the good or bad digestion of a prime minister", and gives modern examples of the truth of this pronouncement. Peace or war largely depends upon the state of well-being of the dictator in control. Two current ones are food faddists, and one, Dr. Heiser says it is rumored, has had a gastric ulcer. The author's comment on food faddists is well worth quoting: "The chief danger in following faddist diets comes from expecting cures. This allows the condition of ill-health to continue until perhaps irreparable harm has been done. They do reduce our total intake of food, and this is the chief merit of some, the sole merit of many. Thus willy-nilly a certain amount of improvement may take place. One other possible virtue is their emphasis upon fruits and vegetables, raw and cooked, which are the items most likely to be lacking in our menus."

Dr. Heiser continues with regard to vegetarians that in all his travels he has never met a hundred-per-center, for milk and eggs are invariably included, he says, in the so-called vegetarian diet. Further on in his chapter on "Diet and Health With Key to the Vitamins" he has this to say of white flour refined until its protective covering, which contains protective substances, has been removed: "If white bread is to be your staff of life—and approximately ten billion loaves of bakers' bread are consumed in the United States annually—you must make up for the lack of vitamins and inorganic salts elsewhere." As Dr. Heiser says, the very ones who need these protective substances most in bread, because they do not compensate for the lack by eating vegetables and fruits, are the ones who eat large amounts of overly refined white flour products.

While the theme of nutrition is carried throughout the book, there are chapters devoted largely to other subjects. For instance, "A Little Poison Now and Then" refers to the health hazards by means of contaminated water and foods. Other chapters very properly concern "Good Hygiene Habits," and "All Work and No Play." Even clothing is not neglected and one excellent chapter concerns the common cold.

But it is impossible within the space of this review to cover as thoroughly as it deserves the wealth of material presented in this book. The kindly spirit of the real physician shines forth from the printed pages. The sincerity and seasoned judgment and wealth of experience of the author make the book not only enjoyable but profitable reading. An index adds to its value.

Unsolved Mysteries of the Arctic. By Vilhjalmur Stefansson. New York: The Macmillan Company, 1939, pp. 381. Price $3.50.

This is a carefully documented account which tends to dispel or throw new light on certain mysteries of the Arctic. One such, of which comparatively little is known, recounts the

crossing of the North Atlantic by the Irish, "or at least people from the British Isles", and the discovery of Iceland probably before 795 A.D. Later the country, including Greenland, was colonized by the Norwegians, who Stefansson believes crossed the Melville Sound and spread west into the Canadian islands. Still later was the mysterious disappearance of 9000 Europeans from their first American colony. Stefansson contends that this was due to the attempt of the colonists to live upon European foods, or on native foods handled in the European way which finally resulted in their extermination by rickets and other deficiency diseases.

Another narrative concerns the lost Franklin Expedition, in which a company of more than a hundred men "contrived to die to the last man, apparently of hunger and malnutrition" in a district where Eskimos had been living for generations. Stefansson believes that the crews of the *Erebus* and the *Terror* perished as victims of the manners, customs, social outlook, and medical views of their time. The majority died from scurvy brought on by dependence on the ships' stores, and from hunger brought on by a lack of physical strength and mental initiative, which were in turn due to scurvy.

Included are the stories of the strange fate of Thomas Simpson, the death of Andrée and his party, not from hunger but from cold, or as Stefansson believes, carbon monoxide asphyxia. Finally we have the present-day chapter in the saga of the Arctic, the missing Soviet flyers lost in 1937 in what was presumably a forced landing on the polar sea.

Quantity Cookery. By Nola Treat and Lenore Richards. Boston: Little Brown and Company, 1939, pp. 330. Price $2.50.

This is a completely revised edition of a work that has been standard for over 15 years. In preparing this edition the authors have retained and revised material of the earlier editions of *Quantity Cookery* and *Tea Room Recipes* and have brought these up to date. They have added much that is new, both in recipes and discussions of quantity cookery problems. They have included only those recipes which they have found most popular. Among the more interesting chapters are: principles underlying the planning of menus for large numbers; standards for judging meals; examples of good menus; suggestive lists to be used in menu planning; quantity soup making; vegetables; and salads, salad dressings and sandwiches.

The recipes, arranged in convenient form, include total weight and yield, weight and size of serving, and space for serving cost, selling price and calories. This book, prepared by experienced authorities in the field, should meet a real need in the large quantity cookery field.

Menu Making for Professionals in Quantity Cookery. By J. O. Dahl. Stamford, Conn.: J. O. Dahl, 1939, pp. 205. Price $3.00.

According to Mr. Dahl, he has collected in this volume over 15,000 ideas for profitable menus. The book contains 75 sections and apparently there is no omission of any institution in which food might be served in large quantities. The author discusses not only food service in restaurants, hotels and clubs, but includes special diets for the hospital, camp menus, railroad diner menus, food service on air lines, etc., etc., and even barbecues.

Mr. Dahl has included 300 practical low cost luncheons and 200 dinners, holiday menus and menus for everything from picnics to beefsteak parties, CCC camps and dude ranches. If the author has forgotten anything, this reviewer fails to discover the missing item.

Good Food from Sweden. By Inga Norberg. New York: M. Barrows and Company, 1939, pp. 178. Price $1.75.

From the land of the smörgåsbord comes this collection of delightful Swedish dishes, compiled by a Swedish authority. Interesting chapters include sandwiches and snacks and several chapters on the preparation of smörgåsbord. The author tells just how and when to serve these delicacies. The other recipes are arranged under the usual headings of soup, fish, meat, and so on, but the great majority of the recipes included are characteristically Swedish and as such should contribute interest and variety to American menus.

Pastry and Sweets Diary. By Mary Hunt. New York: American Book-Stratford Press, Inc. 1939, pp. 244. Price $2.00.

The author of this compilation of recipes is one of the increasing number of women who have been successful in large group catering to the public. Miss Hunt has assembled the more

popular recipes from her tea room and has included old family recipes and others generously contributed by friends in her current book. She has specialized in cookies, cakes, soufflés, pies and a variety of desserts, yeast bread and rolls, and other batters and doughs. She includes a chapter on jellies, jams, conserves and pickles, and one on candies and confections.

The attractively bound and printed book was designed by Mr. Stefan Salter, who designed the cover for this JOURNAL.

Cooking of The Old Dominion. Richmond Hotels, Inc. Virginia, 1939, pp. 48. Price 25 cents.

This beautifully bound and printed little cook book will bring happy memories to those who were fortunate enough to attend the 1937 annual meeting of the American Dietetic Association at the John Marshall Hotel, Richmond, Virginia.

The recipes were collected and edited by Aileen Brown and Gertrude Drinker, prominent dietitians of Richmond. The booklet contains such helpful little notes as "In Virginia a julep before breakfast was believed to give protection against malaria." The recipes include some of the delectable dishes served at the Richmond meeting, such as beaten biscuit, Brunswick stew, and so on.

Eating Around the World. Prepared by a Committee on Foreign Food Habits and Customs, Community Education Section, Mame Tanner Porter, chairman, New York State Dietetic Association, 1939, pp. 33. Price 50 cents on application to Genevieve Moyer, Albany Hospital, Albany, N. Y.

This is a collection of typically Jewish, Hungarian, Italian, Polish, Swedish, and Syrian recipes. The booklet includes groupings of the various popular nationality foods and ways in which these are used. Another interesting feature is sample or typical menus of the nationality groups.

Sandwich Manual for Professionals. By Louis P. de Gouy. Stamford, Conn.: The Dahls, 1939, pp. 134. Price $1.00.

This helpful little book includes directions for making 600 sandwiches and a chart covering 67 different kinds of sandwiches. The selections range from inexpensive one-arm lunch types to complicated night club specials. The introduction includes some historical details on sandwiches, the important points to remember in making sandwiches and garnishes to serve with them.

Factors Affecting the Nutritive Value of Foods. II. The Effect of Refining on the Nutritive Value of Wheat Products. Nutrition Circular No. 4, an annotated bibliography by E. Neige Todhunter and Alva Fatzer. College of Home Economics, State College of Washington, Pullman, Washington, 1939, pp. 25. Price 15 cents on application.

This is an annotated and well summarized collection of information on the subject, which should be of great assistance to teachers.

Cooking in a Big Way. By Julia Lee Wright, Director, Homemakers' Bureau, Safeway Stores, Inc., Box 660, Oakland, Cal. 1939, pp. 31. Price 10 cents.

This is No. 5 in Mrs. Wright's series of Kitchen Classics. The small pamphlet contains a great deal of helpful information on menu planning, buying and serving food, and organizing work. It includes tabular arrangements of quantities of foods to serve fifty, interchangeable food proportions and suggestions for decorations and food combinations, and other helpful information.

CURRENT LITERATURE

American Journal of Digestive Diseases

Vol. 6, May 1939

*Vitamin B_1 and liver extract in the treatment of nonspecific chronic diarrhea and colitis. G. Cheney.—p. 161.

*Studies in human biliary physiology. 1. Fasting rate and quantity of bile secretion. C. Zuckerman, B. Kogut and M. Jacobi.—p. 183.

*The intravenous feeding of amino acids. I. Corbould, R. H. Clark and R. E. McKechnie.—p. 185.

Vol. 6, June 1939

*Biophotometric studies in 30 cases of chronic ulcerative colitis. H. H. Lerner and H. G. Rapaport.—p. 239.

*Relation of constipation to cancer. J. L. Kantor.—p. 254.

*Studies in human biliary physiology. II. The effect of food factors and orally administered bile on the rate and quantity of bile secretion. M. Jacobi, C. Zuckerman and B. Kogut.—p. 270.

DIARRHEA AND COLITIS. Chronic diarrheas of unknown etiology may respond almost specifically to the administration of vitamin B_1. A number of patients suffering from constipation predominantly of the atonic type, occasional short bouts of diarrhea, mucus in the stools and varying degrees of abdominal distress, gas and general exhaustion, respond favorably to treatment with vitamin B_1. The effectiveness of liver extract in the treatment of ulcerative colitis is apparently not due to vitamin B_1 or B_2 but to some substance as yet unidentified, contained in the extract. It seems probable that this substance improves the resistance of the colon to infection.

BILE SECRETION. In a healthy patient, with an apparently normal liver and a total biliary fistula, observations were made on the rate and quantity of biliary secretion when the subject was starved and no bile administered orally. The hourly rate of flow during the day and night was found to be fairly regular. The daily total output averaged between 468.1 and 500.9 cc.

INTRAVENOUS FEEDING OF AMINO ACIDS. Rabbits fed intravenously or by intraperitoneal injections on a mixture of amino acids from hydrolyzed casein, supplemented with tryptophane and vitamin A, lose practically no weight over a period of 2 weeks, and remain in normal physical condition.

CHRONIC ULCERATIVE COLITIS. In a group of 30 cases of chronic ulcerative colitis, 41% have a subclinical vitamin A deficiency as shown by the biophotometer. There appears to be more than a casual relationship between avitaminosis A and ulcerative colitis. The ability to absorb vitamin A given in normal amounts is diminished. The disease predisposes to avitaminosis A.

RELATION OF CONSTIPATION TO CANCER. One hundred and seventy-nine cases of cancer involving the esophagus, stomach, colon, and rectum were analyzed for the incidence of constipation. The findings were compared with a similar analysis of 4700 unselected patients suffering from various digestive disorders. Constipation of all durations occurred on the average as frequently in the cancer cases as in the general series. Constipation of 1½ years duration or less was relatively much more frequent in the cancer cases than in the general series. There is no evidence that constipation is the cause of digestive tract cancer but there is evidence that digestive tract cancer causes constipation.

STUDIES IN HUMAN BILIARY PHYSIOLOGY. A high protein diet administered to a cholecystectomized subject with a total external biliary fistula produced consistently the greatest increase in quantity of bile secreted. This increase was approximately twice as great as that produced by either a high fat diet or an average mixed hospital diet. Pure carbohydrate diets produced no increase in quantity of bile secreted under basic fasting conditions. The oral administration of bile alone produced a rise in biliary secretion of an order comparable to that produced by a mixed hospital diet. The addition of bile to the high fat, mixed, or pure carbohydrate diets used, produced an additive effect on bile secreted by the patient. It is suggested that there exists a maximum response of the liver to bile secretory stimuli. Maximal secretory increases occurred from 1 to 3 hours following the administration of the test diets and bile.

American Journal of Diseases of Children

Vol. 57, May 1939

Dental caries among Eskimos of the Kuskokwin area of Alaska: Biochemical characteristics of stimulated saliva correlated with dental caries and occurrence of salivary calculus. M. Karshan, T. Rosebury and L. M. Waugh.—p. 1026.

Vol. 57, June 1939

*Dental caries among Eskimos of the Kuskokwin area of Alaska: III. A dietary study of three Eskimo settlements. T. Rosebury, M. Karshan and C. Lowenberg.—p. 1343.

Observation of growth of children in pediatric practice. H. C. Stuart.—p. 1417.

DENTAL CARIES AMONG ESKIMOS. Most of the dietary conditions commonly held to be responsible for dental caries or its absence cannot be correlated with the incidence of dental caries at three settlements in Alaska. These uncorrelated conditions include dietary carbohydrate in general, cereal and grain foods, dietary protein and fat, calcium and phosphorus and probably vitamin D and the potential reaction of the diets. Consumption of sugar may be of importance in the development of the disease. The only other food to which significance may be attached is pilot bread or ship biscuit.

American Journal of Public Health

Vol. 29, April 1939

*Possibilities and means of improving dental conditions in the United States. G. S. Millberry.—p. 321.

*Revision of methods and standards for certified milk. J. H. Brown.—p. 355.

Vol. 29, May 1939

Malnutrition—a challenge and an opportunity. F. G. Boudreau and H. D. Kruse.—p. 427.

*Sanitary condition of paper containers for retail packaging of perishable foods. J. R. Sanborn.—p. 439.

Vol. 29, June 1939

*Production of mottled enamel halted by a change in common water supply. H. T. Dean and F. S. McKay.—p. 590.

DENTAL CONDITIONS IN THE UNITED STATES. Health education, adequate nutrition, personal hygiene, eradication of infection, correction of endocrine dysfunction, correction of inherited defects—all contribute to the prevention of dental disease and dento-facial deformities. Dental attention must be given to the mother during the prenatal period and during the infancy of the child, and to the child itself from 2 to 21 years if children are to reach maturity with healthy mouths and sound teeth.

CERTIFIED MILK. Under proper supervision, safe raw milk may be produced. Safety is only one of the qualities of a superior milk. There are possibilities of improving the flavor and nutritive quality of milk. Flavor may be a matter of taste and habit but it is now known that the butter fat content is not the only variable nutritive factor in milk. The diet of the cow affects the nutritive quality of her milk. Many of the qualities of summer feed may be preserved for winter feeding by such methods as the rapid drying of hay and the preserving of grasses by molasses or acids. The vitamin D content of milk may be increased at will by feeding irradiated yeast.

PAPER CONTAINERS. Food wrappers and containers should be made of virgin stock which may be processed and fabricated so as to yield paper products that are essentially sterile. Cleanliness and freedom from bacteria in paper containers for milk and milk products depend upon the use of a foundation board that is clean and free from bacteria, also the maintenance of this condition through proper methods of handling and storage. Efficient paraffining of high quality paperboard tends to suppress or "seal in" the few cells remaining in high class paper stock.

MOTTLED ENAMEL. The production of the endemic hypoplasia of the permanent teeth known as mottled enamel has been halted at Oakley, Ida., Bauxite, Ark., and Andover, S. D., by simply changing the common water supply from one containing amounts of fluorides toxic to calcifying dental enamel to one whose fluoride content does not exceed the permissible maximum. Eight to 10 years elapsed before the clinical effects from a change in the water supply could be observed.

Annals of Internal Medicine

Vol. 12, May 1939

*Clinical study of the etiology of obesity. J A. Greene.—p. 1797.

*Recent advances in the treatment of pellagra and associated deficiencies. T. D. Spies, W. B. Bean and W. F. Ashe.—p. 1830.

OBESITY. The records of 350 cases of obesity have been analyzed for a history of increase of

food intake or diminished activity during the time of gain in body weight, for evidence of ovarian dysfunction and for the ability of these patients to lose body weight on low caloric diets. Inactivity occurred simultaneously with gain in body weight in 67.5%. A history of an increase in food intake was obtained in only 3.2%. A long illness or convalescence produced inactivity in 64.3%. Ovarian dysfunction as evidenced by abnormal menses or menopause was present in 50.6%.

PELLAGRA. The accumulated information of the past two decades indicates that pellagra is a clinical syndrome caused primarily by a nutritional deficiency, and that certain predisposing and precipitating factors play a rôle in the pathogenesis of the disease. Prominent among these are fatigue, insomnia, loss of teeth, infectious diseases, food fads, chronic alcoholism and diseases affecting the alimentary tract. Nicotinic acid or one of its closely related compounds, when administered in adequate amounts, has a prompt and beneficial effect on certain symptoms of clinical and subclinical pellagra. Nicotinic acid, thiamin, and riboflavin are invaluable in treating the pellagrin who has a deficiency of thiamin and flavin. Detailed studies of the food consumed by pellagrins reveal inadequacies of most of the essential nutrients.

Archives of Internal Medicine

Vol. 63, May 1939

*Vitamin C and the aging eye. An experimental clinical study. S. M. Bouton.—p. 930.

Vol. 63, June 1939

*Excretion of ascorbic acid in relation to saturation and utilization with some diagnostic implications. M. A. Spellberg and R. W. Keeton.—p. 1095.

VITAMIN C AND AGING EYE. From a comparison of the excretion values and the levels in the blood during and after treatment as well as from the results of ophthalmoscopic and reading tests, it appears that ascorbic acid deficiency can be held at least partly responsible for impairment of vision associated with senescence of the human eye, and that the administration of ascorbic acid by mouth in adequate doses can counteract this process, so far as the crystalline lens is not primarily involved. Little is gained by continuing the administration of ascorbic acid after senile changes have set in.

METABOLISM OF ASCORBIC ACID. Persons normal from a dietary point of view show a prompt rise in urinary excretion and blood concentration of ascorbic acid, with rapid "saturation," when large doses are administered by mouth. "Exhausted" patients show a delay in saturation, but their blood concentration rises above 1 mg. per 100 cc. before a great rise in the urinary excretion occurs. Diagnostic features of scurvy seem to be: a lowered renal threshold for ascorbic acid, extreme depletion of the body stores and an unusual delay of saturation as evidenced by urinary excretion.

Canadian Medical Association Journal

Vol. 40, May 1939

*The rôle of dietetics in dermatology, including a discussion of the cutaneous manifestations of food allergy. G. S. Williamson.—p. 470.

DIETETICS IN DERMATOLOGY. The relation of the skin to other organs of the body, and the close interdependence of all structures of the body have been emphasized. Dietetics has an important application to dermatology. With the accumulation of new knowledge, nutrition should be of ever increasing importance in health and disease.

Canadian Public Health Journal

Vol. 30, April 1939

Food consumption of twenty-nine families in Edmonton, Alberta. M. Sandin, M. Patrick and A. Stewart.—p. 177.

Chinese Medical Journal

Vol. 55, April 1939

Minimum nutritional requirements for China. Chinese Medical Association—Committee on Nutrition.—p. 301.

Hygeia

Vol. 17, June 1939

Homogenized milk. P. C. Jeans.—p. 497.

Journal of Biological Chemistry

Vol. 128, May 1939

*Studies on the effects of calciferol in the thyroparathyroidectomized-nephrectomized rat. W. R. Tweedy, R. D. Templeton, M. C. Patras, F. A. McJunkin and E. W. McNamara.—p. 407.

*Sugar alcohols. XX. The fate of *d*-sorbitol, styracitol, and *l*-sorbose in the animal body. C. J. Carr and S. E. Forman.—p. 425.

*The relation of pyrrole-containing pigments to hemoglobin synthesis. G. O. Kohler, C. A. Elvehjem and E. B. Hart.—p. 501.

*The gonadotropic hormone of urine of pregnancy. I. A simple method of extraction and purification. S. Gurin, C. Bachman and D. W. Wilson.—p. 525.
*Vitamin A and liver cell tumors. A. Goerner and M. M. Goerner.—p. 559.
*Studies in protein metabolism. IX. The utilization of ammonia by normal rats on a stock diet. D. Rittenberg, R. Schoenheimer and A. S. Keston.—p. 603.
*Deposition and utilization of fatty acids. I. Fat synthesis from high carbohydrate and high protein diets in fasted rats. H. E. Longenecker.—p. 645.

Vol. 128, June 1939

*Studies in mineral metabolism with the aid of artificial radioactive isotopes. II. Absorption, distribution, and excretion of potassium. M. Joseph, W. E. Cohn and D. M. Greenberg.—p. 673.
*Cholesterol content of skin, blood, and tumor tissue in rats irradiated with ultraviolet light. A. Knudson, S. Stuart and W. R. Bryan.—p. 721.
The concentration of ionized magnesium and calcium in milk. R. Nordbö.—p. 745.

CALCIFEROL. Administration of massive doses of calciferol to thyroparathyroidectomized-nephrectomized rats, in which there is a low serum calcium-inorganic phosphorus ratio, is ineffective in producing hypercalcemia. If appropriate dietary treatment is instituted soon after thyroparathyroidectomy so that the normal relationship of calcium to phosphorus in the blood is restored, or maintained, then calciferol is effective in promoting mobilization of calcium into the blood.

SUGAR ALCOHOLS. When fed in a basal fat diet for a period of days, *d*-sorbitol, styracitol, and *l*-sorbose are stored as glycogen in the liver of the rat. Styracitol does not raise the respiratory quotient or elevate the fasting blood sugar level of the rabbit. Results indicate that styracitol requires glycogen formation for utilization by the animal body.

PYRROLE-CONTAINING PIGMENTS AND HEMOGLOBIN. Anemic rats deficient in copper but receiving optimum quantities of iron were given chlorophyll, protoporphyrin, and bilirubin, both *per os* and parenterally. None of these compounds had a beneficial effect on hemoglobin production. At the level fed, between 50 and 60% of the chlorophyll ingested was excreted unchanged in the feces. The relation of copper to the synthesis of hemoglobin in the light of recent discoveries is briefly discussed.

GONADOTROPIC HORMONE. Two simple processes have been developed for obtaining highly active gonadotropic hormone preparations from pregnancy urine. Although stable in the dry state, the hormone in aqueous solution may undergo marked losses of biologic activity after 48 hours, even when kept in the cold.

VITAMIN A AND LIVER CELL TUMORS. Rats were fed a diet containing 0.1% 2-amino-5-azotoluene for 1 year. This dye caused a reduction of vitamin A content in the hepatic tissues. Analysis of the liver cell tumors which developed after prolonged feeding of the dye showed an absence of vitamin A. The hepatic tissues surrounding the hepatomas were able to store vitamin A.

PROTEIN METABOLISM. Two adult rats were kept for 9 days on a normal stock containing 15% casein with an addition of 26.4 mg. of ammonia nitrogen, in the form of ammonium citrate, per rat per day. The experiment clearly indicated that normal rats can utilize dietary ammonia for amino acid formation.

FATTY ACIDS. Fat deposition in rats was studied to determine the molecular distribution of fatty acids when the animals were under known dietary regimens. On a 5% ration in which linoleic acid was present, the animals regularly laid down a reserve fat in which oleic, palmitic, and linoleic acids predominated. Direct experimental evidence of fatty acid synthesis from both carbohydrate and protein was obtained.

POTASSIUM METABOLISM. Radioactive potassium administered to fasted rats as potassium chloride is largely absorbed from the gastrointestinal contents within half an hour. There is a considerable degree of individual variation in the absorption rate. The degree of accumulation of potassium in the tissue of the small intestine and stomach suggests that the absorption occurs mainly from the small intestine, with but little from the stomach. Liver tissue shows an uptake of potassium which follows the absorption curve very closely both in rise and fall. The deposition in the liver is only transitory and appears to be incidental to its location in the path of the portal venous system. The skeletal muscle is slow in taking up potassium. Excretion of labeled potassium through the kidney takes place at the moderate and nearly constant rate of about 6 to 7% per day. The

kidney accumulates a definite content of potassium as soon as it appears in the circulation and maintains it for a considerable length of time.

CHOLESTEROL. The total cholesterol content of the skin is increased by ultraviolet irradiation. Skin from the face showed increases in some instances of several hundred per cent. The cholesterol content of the skin from the back and abdomen is only slightly increased. The increases of total cholesterol in the skin are practically all in the ester form. There is no relationship between the increases of total cholesterol and the period of irradiation.

Journal of Nutrition

Vol. 17, May 1939

*The need for manganese in the bone development of the chick. C. D. Caskey, W. D. Gallup and L. C. Norris.—p. 407.

*Citric acid and its salts as calcifying agents in rats. M. L. Hathaway and F. L. Meyer.—p. 419.

*The utilization of the calcium of milk by pre-school children. G. Kinsman, D. Sheldon, E. Jensen, M. Bernds, J. Outhouse and H. H. Mitchell.—p. 429.

*Relationship between carotene, blindness due to constriction of the optic nerve, papillary edema and nyctalopia in calves. L. A. Moore.—p. 443.

*The influence of different levels of milk intake on the acid-base mineral balances of children. H. A. Hunscher, F. C. Hummel and I. G. Macy.—p. 461.

*The influence of exercise on the growing rat in the presence and absence of vitamin A. N. B. Guerrant, R. A. Dutcher and F. Chornock.—p. 473.

*The relation of dietary fat to the thiamin requirements of growing rats. F. E. Stirn, A. Arnold and C. A. Elvehjem.—p. 485.

*The heat production and blood and urine constituents after administration of *d*-lysine monohydrochloride to the dog. J. R. Doty and A. G. Eaton.—p. 497.

*The heat production and blood and urine constituents after administration of *d*-arginine monohydrochloride to the dog. A. G. Eaton and J. R. Doty.—p. 505.

Vol. 17, June 1939

*A study of the ascorbic acid intake required to maintain tissue saturation in normal adults. W. B. Belser, H. M. Hauck and C. A. Storcick.—p. 513.

*The rôle of riboflavin and other factors of the vitamin-B complex in the nutrition of the pig. E. H. Hughes.—p. 527.

*Production of goiter in rats with raw and with treated soy bean flour. G. R. Sharpless, J. Pearsons and G. S. Prato.—p. 545.

*The utilization of calcium in various greens. M. Speirs.—p. 557.

*The growth, activity, and composition of rats fed diets balanced and unbalanced with respect to protein. T. S. Hamilton.—p. 565.

*The heat increments of diets balanced and unbalanced with respect to protein. T. S. Hamilton.—p. 583.

*A study of rachitogenic diets composed of purified food materials. J. H. Jones.—p. 601.

MANGANESE AND BONE DEVELOPMENT. A deficiency of manganese in the diet of chicks results in a significant shortening of the bones of the legs and wings as well as a shortening of the spinal column. The shortening of the bones cannot be explained by an alteration in the gross composition of the body. The ash content of the bones of chicks fed a low-manganese diet was significantly lower than that of chicks fed an adequate diet.

CITRATES AS CALCIFYING AGENTS. The effectiveness of citrates in improving the calcification in rats on a rachitogenic diet was confirmed, but the need of citric acid for the improvement was not confirmed. The greater effectiveness of potassium citrate as calcifying agent was indicated. The calcifying effect of citrates appeared to be unrelated to sex, gain in weight or food intake.

UTILIZATION OF CALCIUM OF MILK. Only one-fifth to one-fourth of the calcium of milk is utilized and retained by children. Endogenous losses of calcium were entirely suppressed in these children. Human subjects are able to utilize the calcium of milk as well, if not better than that of other foods. Since the re-utilization of calcium ions liberated in endogenous catabolism may not occur at liberal levels of calcium ingestion, a maintenance requirement for calcium would develop. Percentage retention would be indicative of the extent to which the growing child can utilize the calcium of a usual mixed diet or of how well he can utilize calcium of a specific food.

CAROTENE AND BLINDNESS. The development of nyctalopia, papilary edema and a permanent type of blindness associated with a constriction of the optic nerve in cows can be prevented by supplementing the low carotene ration with crystalline carotene dissolved in cottonseed oil.

ACID BASE BALANCE IN CHILDREN. Not only are the various quantities of the elements changed in the diet but the proportion of one to the other is appreciably changed when different levels of milk are incorporated in a known fixed dietary. In a study of healthy children, all stored acid and base throughout, but the quantity was greater during ingestion of larger amounts of milk.

EXERCISE AND VITAMIN A REQUIREMENT. Experiments on rats showed that less food was consumed, smaller increases in body weight were made and less severe symptoms of vitamin A deficiency developed when animals were forced to exercise. Results showed the beneficial effect of exercise on intestinal mobility. Animals having voluntary exercise and daily allotment of vitamin A were more active physically than those not receiving vitamin A, indicating a relationship between completeness of diet and physical activity.

THIAMIN REQUIREMENTS OF RATS. When the carbohydrate component of a thiamin-free ration is isocalorically replaced by natural fats or synthetic fatty acid esters, the resultant diet will alleviate the polyneuritic syndrome of thiamin-deficient rats. No marked differences have been observed between olive oil, cocoanut oil, autoclaved peanut oil, lard and cottonseed oil, as judged by growth records of the rats.

HEAT PRODUCTION OF LYSINE. Lysine is metabolized much more slowly than glycine and is readily excreted by the kidneys if present in the blood in large quantities. Lysine does not produce a specific dynamic action.

HEAT PRODUCTION OF ARGININE. Arginine is metabolized more slowly than glycine and exhibits a specific dynamic action slightly higher than that of glycine.

TISSUE SATURATION WITH VITAMIN C. Of 7 subjects studied, 2 required between 70 and 85 mg. of ascorbic acid to maintain tissue saturation, 3 required between 85 and 100 mg. and 2 required more than 100 mg. of ascorbic acid per day. On the basis of body weight the range in requirement to maintain complete saturation for these subjects was from about 1 to 1.6 mg. per kilogram per day. Exercise, high environmental temperatures and drugs affect urinary excretion of vitamin C.

RIBOFLAVIN IN NUTRITION OF SWINE. Riboflavin is necessary for normal growth and physical well-being in the pig. Thiamin is also necessary for proper nutrition of the pig. Feeding a diet without rice-bran filtrate resulted in slow growth.

SOY BEAN GOITER. Thyroid enlargement four times the normal rate occurs in rats in an experimental period of 7 weeks when fed a diet composed of unprocessed soy bean flour, yeast, sugar, butterfat, sodium chloride and calcium carbonate; minimum iodine requirement of rats fed this diet is twice normal. Unprocessed soy bean flour contains a positive goiterogenic property that is removed or destroyed by fat solvents or by steam.

CALCIUM UTILIZATION FROM GREENS. Calcium of turnip greens is about as available as that of milk, while that of tender, green collards and kale is slightly less available. The calcium of New Zealand spinach was utilized poorly, if at all, and utilization of the calcium of the milk in the diet was diminished by its presence.

BALANCED AND UNBALANCED DIETS. Increasing the percentage of whole egg protein slowly increased the metabolizable energy, had no effect upon percentage of gross energy metabolizable until 30% or more protein was present, caused a gradual decrease in ratio of energy to nitrogen in urine and had no consistent effect upon digestibility of either food energy or food nitrogen. Increasing the percentage of protein in the diet of growing animals increased the growth-promoting value of the diet. Gain in protein and body length are better criteria than gain in weight. Appetite of rats on low protein rations was adversely affected. The voluntary activity of rats was unaffected by the protein content of the diet until an excess was present, when activity was decreased. The composition of the gains of growing animals was readily affected by the percentage of protein in the diet. The weights of the livers and kidneys are in direct proportion to the amounts of protein consumed.

THE HEAT INCREMENTS OF DIETS. The better balanced a diet is in satisfying an animal's requirements, the smaller will be its heat increment and the greater will be its net energy value.

RACHITOGENIC DIETS. A fair degree of rickets can be obtained in the rat if casein is fed at a level of not over 12%. The antirachitic activity of casein is apparently due to the large amount of phosphorus contained in this protein.

In order to produce severe rickets in the rat on diets containing 3% $CaCO_3$ the available phosphorus must not be greater than approximately 0.1%.

Journal of the American Dental Association

Vol. 26, June 1939

*Effect of magnesium-deficient diets on oral and dental tissues. I. Changes in the epithelium. H. Becks and W. J. Furata.—p. 883.

Light from primitive races on the relation of nutrition to individual and national development. W. A. Price.—p. 938.

MAGNESIUM DEFICIENT DIETS. Since most foods contain magnesium, a deficiency of this element in man appears unlikely. If absorption and assimilation of magnesium are inhibited, epithelial changes may result.

Journal of the American Medical Association

Vol. 112, May 6, 1939

*Beriberi secondary to hernia of the mesentery. L. M. Loeb and R. S. Greenebaum.—p. 1810.

Vol. 112, May 13, 1939

*Plasma prothrombin and the bleeding tendency. G. H. Scanlon, K. M. Brinkhaus, E. D. Warner, H. P. Smith and J. E. Flynn.—p. 1898.

*The relation between vitamin A and dark adaptation. S. Hecht and J. Mandelbaum.—p. 1910.

Vol. 112, May 20, 1939

*Carbohydrates as constituents of proteins. Editorial.—p. 2068.

Vol. 112, June 3, 1939

Vitamin K and clotting time. W. W. Waddell.—p. 2259.

*Insulin response in nondiabetic malnourished patients.—p. 2290.

Vol. 112, June 10, 1939

*Changes in serum potassium in certain allergic states. H. A. Rusk, T. E. Weichselbaum and M. Somogyi.—p. 2395.

*Vitamin B_6. T. D. Spies.—p. 2414.

Vol. 112, June 17, 1939

Blood sugar versus urine sugar as observed in patients treated with protamine zinc insulin and with ordinary insulin. A. Sindoni.—p. 2503.

*Nontropical sprue. A. L. Burgdorf and T. A. Barry.—p. 2508.

*Treatment of Addison's disease.—p. 2511.

*Unsaturated fatty acids in nutrition.—p. 2518.

*Bacterial examination of eating utensils. Current comment.—p. 2520.

Vol. 112, June 24, 1939

*Pellagra of Kentucky mountain folk: Ambulatory treatment with nicotinic acid. J. H. Kooser and M. A. Blankenhorn.—p. 2581.

Blood sugar versus urine sugar as observed in patients treated with protamine zinc insulin and with ordinary insulin. A. Sindoni.—p. 2595.

The aging process.—p. 2605.

*Effect of acidified candies on the teeth.—p. 2696.

BERIBERI. A case of beriberi is reported in which inadequate absorption of vitamin B_1 resulted from a partial intestinal obstruction caused by hernia in the mesentery. A daily dose of 25 mg. of thiamin, later reduced to 10 mg., brought about improvement. The most striking evidence of insufficient absorption was failure to gain weight on a high caloric, high protein and high vitamin diet.

PLASMA PROTHROMBIN AND BLEEDING TENDENCY. Vitamin K plays an important part in prothrombin formation in the body. Patients with obstructive jaundice or with biliary fistulas, having no bile in the intestine, have difficulty in absorbing such fat soluble materials. Without adequate absorption of vitamin K they suffer from faulty formation of prothrombin, and for this reason a tendency to bleed develops. A case of postoperative bleeding in a patient with obstructive jaundice is reported. Bleeding ceased upon administration of vitamin K.

DARK ADAPTATION. Four young men when deprived of dietary vitamin A responded by a steady rise of both cone and rod thresholds which was apparent almost from the first day after the removal of vitamin A from the diet. After about two weeks' deprivation they showed thresholds above any values normally found in the population; their thresholds continued to rise so long as the dietary deprivation was maintained. The return to a normal diet with or without supplementary vitamin A resulted in an initial small rapid drop in threshold followed by a gradual decrease; nearly 2 months was required for the subjects to return to normal. Measurements of dark adaptation when made under critically standardized conditions can be used as an aid in the diagnosis of avitaminosis A produced not only by a lack in the diet but by a functional disarrangement in the flow of vitamin A from diet to retina.

CARBOHYDRATES AS CONSTITUENTS OF PROTEINS. The first suggestion that carbohydrates may be components of all proteins was made by Claud Bernard, although the basis for this idea

was an erroneous interpretation of experimental data. Within relatively recent times, investigators have reopened the question as to whether carbohydrates may actually be components of the simpler proteins or are present as impurities in the various preparations. Although the mode of combination of the carbohydrate with the rest of the molecule remains unexplained, the concept of carbohydrates as constituents of proteins must be considered in connection with theories of protein configuration.

INSULIN IN NON-DIABETIC MALNOURISHED PATIENTS. The mechanism of improved nutrition from insulin therapy includes direct stimulation, by way of the vagus nerve, producing increased motility and more acute subjective sensations of hunger and depression of the blood sugar below the normal level, causing additional or prolonged hunger contractions. These two factors may then be responsible for the immediate increase in appetite and willingness to partake of food which is usually manifested within 15 to 20 minutes after the subcutaneous injection of insulin. A third factor may be the increase in the amount of the digestive secretions, resulting in better digestion, absorption and utilization of the components in the patient's diet.

ALLERGY. In patients with acute and chronic urticaria there is an increase in the serum potassium, and with the subsistence of clinical symptoms the blood potassium content falls. The same phenomena has been observed in patients with bronchial asthma. Certain allergic patients with urticarial and asthmatic manifestations show definite relief of symptoms with potassium chloride alone or potassium chloride and insulin, while other patients do not seem to be benefited by this régime.

B_6 IN HUMAN NUTRITION. Four persons who had been treated successfully for pellagra and beriberi, but who remained on their deficient diets and were complaining of extreme nervousness, insomnia, irritability, abdominal pain, weakness and difficulty in walking, were studied. Within 4 hours after the administration of 50 mg. of pure synthetic vitamin B_6 in sterile physiologic solution of sodium chloride, all patients experienced dramatic relief. Vitamin B_6 is important in human nutrition.

NONTROPICAL SPRUE. A case of nontropical sprue is reported because of the typical exacerbations due to a faulty diet.

ADDISON'S DISEASE. An adequate caloric, low potassium diet of normal carbohydrate content with 10 to 20 gm. of salt is advised for patients with Addison's disease. To avoid the usual amounts of potassium in the diet, dried fruits and vegetables, concentrated sauces, condiments, unpolished cereals, large amounts of meat and soups, which are really nothing but potassium juice with a little sodium added, are restricted. Since patients tend to hypoglycemia, candy or sugar may be taken between meals and at bed-time.

UNSATURATED FATTY ACIDS. Although the essential linoleic or linolenic acids may have some direct effect on the skin, their main function is to supply material from which higher and more unsaturated fatty acids may be synthesized. Since there is an inability to store fat in the fat-deficiency disease, it seems evident that the more unsaturated fatty acids have some influence in enabling the organism to store fat in its depots and tissues.

BACTERIAL EXAMINATION OF EATING UTENSILS. The cleansing of hands, the prevention of flying dust and the screening of mess hall windows, together with the bacterial examination of "clean" dishes should constitute a regular routine for the purpose of maintaining a high degree of institutional sanitation.

PELLAGRA. Of 41 ambulatory pellagrins treated with nicotinic acid and without change in diet, 28 were completely cured and remained well; 12 were partially improved, and the condition of one who was inadequately treated was unchanged. Nicotinic acid seems to cure pellagra even when poor diets are continued, but relapses may occur. Nicotinic acid may aid in the restoration of health, but among the pellagrins here described a considerable amount of ill health, such as anemia, underweight, diarrhea and a few subjective symptoms persisted.

EFFECT OF ACIDIFIED CANDIES ON TEETH. The phenomenon of ionic exchange between tooth

enamel and acidic groups of various foods may be an important factor in the general process of tooth destruction throughout the years of tooth life.

Pennsylvania Medical Journal

Vol. 42, May 1939

*The newer insulin. J. T. Beardwood.—p. 881.

NEWER INSULIN. The work of D. A. Scott and others showed that if zinc or certain other metals was added to regular insulin, the action was prolonged. The action of protamine zinc insulin varies from that of regular insulin in that a drop in blood sugar does not occur for 4 to 5 hours after the injection, and then is prolonged from 18 to 24 hours. A solution of insulin crystals showed a prolonged action as compared to regular insulin. Its action is a little different from protamine zinc insulin in that there is a more rapid drop in the blood sugar and then a prolonged action of about 12 hours.

Public Health Nursing

Vol. 31, June 1939

*Keeping up to date in nutrition. L. H. Gillett.—p. 342.

KEEPING UP TO DATE IN NUTRITION. New discoveries in nutrition laboratories constantly broaden our conception of the importance of food in shaping our well-being, increasing our vigor, producing healthier, more disease-resistant tissues, and adding to the number of useful years. The public health nurse is in a position to straighten out the confusion which is often caused by conflicting bits of advice that come over the radio, from a next-door neighbor, or from the billboards. A list of 8 pamphlets on budgets for low-income families is given. A series of lectures and discussions on new material in nutrition and a review of journals containing articles on nutrition offer opportunities for learning what is new in nutrition.

Public Health Reports

Vol. 54, May 12, 1939

*What people ask about health. R. Olesen.—p. 765.
*Report on three cases of ariboflavinosis. J. W. Oden, L. H. Oden and W. H. Sebrell.—p. 790.

Vol. 54, June 2, 1939

*Health needs of the nation. T. Parran.—p. 919.

WHAT PEOPLE ASK ABOUT HEALTH. People ask "everything" about health of the Public Health Service. With the greater emphasis upon diet as an important factor in health maintenance, the general public has turned its attention to foodstuffs. There is a desire to learn about minerals and vitamins in foods, cod liver oil and the vitamin products of greatest value. Many questions on medicine, hygiene, physiology, sanitation and other topics are asked.

ARIBOFLAVINOSIS. Three cases with lesions similar to those reported by Sebrell and Butler to be due to a riboflavin deficiency were found in a rural section of Georgia. These lesions receded under treatment with a daily dose of 5 mg. of synthetic riboflavin. It is believed that ariboflavinosis is a common dietary-deficiency disease in the South.

HEALTH NEEDS OF THE NATION. Since 1900, the death rate from all communicable diseases has dropped 70%. The general death rate from all causes has gone down 34%. College records show that children are on the average taller than their parents and physically better specimens because science has taught how to feed them better. The American Red Cross might transform our whole national status in the field of better nutrition. This would mean re-education of millions in the use of foods, machinery for getting food into empty hands, a vast multiplication and improvement of all present effort to grow gardens where there are none, a daily quart of clean milk for each child and encouragement of the individual to enrich his own diet by means ready at hand.

INSTITUTION MANAGEMENT

The American Restaurant Magazine

Vol. 22, May 1939

Three Ring Inn at the World's Fair. Editorial.—p. 28.
Childs goes concessionaire. Editorial.—p. 31.
*Toffenetti's at the world of tomorrow. Editorial.—p. 32.
*Building service values that will bring patronage. R. Billings.—p. 35.
*Handing out dollars in portions. G. L. Wenzel.—p. 36.
*New menu selections. L. D. Freeman.—p. 48.

TOFFENETTI'S AT THE FAIR. A New York World's Fair restaurant planned to provide ideal

working and serving units for typical Toffenetti menus with plate glass windows around entire building seats 750 but no waitress has to walk more than 75 feet from serving units. Garbage is stored in another building and mechanical equipment located in a separate room. Complete floor plans and descriptions are given.

SERVICE VALUES. Restaurants have to sell atmosphere, service and cleanliness as well as food to keep customers and make profit. Sound profits are founded on efficient leadership and training of employees and constant search for ways to increase satisfaction of patrons and employees.

PORTION CHECKING. No restaurant manager should say he is unable to control or lower his food costs. The Institute of Fine Cooking has published charts and bulletins listing portion sizes for many types of restaurants. An analysis of the causes for high food percentages shows why the same portions served in different restaurants yield different percentages. This data illustrates why planning and consistency are essential in food cost control.

MENU SUGGESTIONS. A few selections from a group of breakfast menu combinations are: sausage links with minted pineapple wedge; chilled orange juice, sprig of mint, little thin pancakes and maple syrup; cooked cereal with raisins and dates. And for dinner, onion-flavored cole-claw on shredded spinach; vegetable soup with marrow balls; beef tongue with horseradish sauce; roast spring lamb, mint ice and spiced peach; apple dumpling with cherry sauce; meringue rings filled with sliced peaches whipped cream and chopped almonds.

Buildings and Building Management

Vol. 39, May 1939

Standard accounting methods. G. H. Ostermayer.—p. 21.
*Heating and air-conditioning a new office building. M. T. Johnston.—p. 25.
*Comparative decorating costs.—p. 30.
*Safeguards against accidents. E. F. Gallagher.—p. 31.
Modern exterior paints. F. L. Browne.—p. 33.
*Sensible labor relations. N. J. Engelbert.—p. 35.

HEATING AND AIR-CONDITIONING. A complete explanation of the new air-conditioning and heating systems to be used by the Bankers Life Company in Des Moines. The radiant heating and cooling with the duct supply and exhaust are the systems used. A desirable average of wall and window temperature will be maintained regardless of outside conditions. No radiators are to be used. The supply systems are automatically controlled for temperature and humidity. Water is used as a temperature exchange medium for both heating and cooling except in fresh air intake banks of heating coils where low pressure steam is used.

DECORATING COSTS. Tabulations of results of a study of decorating costs of paint, paper, or calcimine over a five-year period in a typical Chicago office building, give the unit prices, sizes of areas covered, and materials used each year.

ACCIDENTS. A discussion of the importance of educating employees in the prevention and the handling of accidents with a picture of the great expense of these accidents.

LABOR RELATIONS. Points on hiring and firing employees are given with special emphasis on the importance of small details in securing good morale within an organization.

Consumers' Guide

Vol. 5, March 1939

*When foods and drugs go traveling.—p. 7.
*Your food supplies and costs.—p. 19.

CANADIAN FOOD AND DRUG LAWS. The Canadian Government approves all labels used on food products manufactured or sold in Canada. Information on labels includes brand name, net weight, name of the commodity, name and address of the packer and quality grade designations—fancy, choice, standard, or substandard. Container standardization limits cans to 9 shelf sizes and jars or pails to 6 shelf sizes. All canned food establishments are licensed if the product is sold interprovincially, and the entire output is subject to inspection. American products are subject to the same labeling and inspection when sold in Canada and therefore must carry same detailed information on labels. Canadian drug laws protect the consumer against adulterated and misbranded drugs in three ways: they forbid the manufacturers to offer products as treatment for any of a long list of diseases, disorders, or abnormal physical states; guard the manufacture of animal and vegetable preparations, biological preparations, those admin-

istered by injection, and arsenical preparations; and enforce registration of formulae plus recommended uses and claims with the commission. Cosmetics are not controlled in Canada.

FOOD SUPPLIES AND COSTS. Grass-fed and spring lambs show a smaller supply for April through June than in 1938. Large increases in fresh pork supplies were expected from April through June. A 10% drop from last year in supplies of California Valencia oranges is expected, but other oranges will remain the same as last year.

Hospitals

Vol. 13, May 1939

*Personnel management. G. O'Hanlon.—p. 75.
*Food service. G. E. Gallagher.—p. 117.
*Dietary and housekeeping problems. E. C. Pipes.—p. 122.

Vol. 13, June 1939

*Diet therapy as especially applicable to surgical diseases. K. Daum.—p. 24.
*House management in a small hospital. A. M. Hughes.—p. 103.
*Food problems in the small hospital. L. Hunt.—p. 105.

PERSONNEL MANAGEMENT. Procedure for estimating in types and number of personnel is given and the duty of the hospital to promote and maintain the health of its employees is stressed. The use of a personnel budget which shows the name and nature of each and every position to be filled, with wages paid, simplifies the problem.

FOOD SERVICE. Evaluates an effective measure to assure proper food control in the hospital in the light of present trends in food service and lists various ways of keeping food hot. Experience seems to indicate that it is much better to place the responsibility for the serving of food in the nutrition department.

DIETARY AND HOUSEKEEPING PROBLEMS. Discussion of the problems of hiring efficient employees and securing adequate supervision of their work. Stresses need to adhere to standards in food as well as in production and service equipment buying.

DIET THERAPY AND SURGERY. Formulae and methods of meeting the dietary requirements for both preoperative and postoperative cases.

SMALL HOSPITAL HOUSE MANAGEMENT. Presents the combination of housekeeping and dietetics responsibility under the direction of one person, preferably a trained dietitian who has had institution housekeeping management training and experience.

FOOD PROBLEMS IN THE SMALL HOSPITAL. Problems to be considered in achieving the desired results in food service. These problems cover the selection and function of the dietitian as well as food cost accounting and food economics.

Hospital Management

Vol. 47, April 1939

A century of service at Massachusetts General Hospital. M. J. Rhees.—p. 26.
*Purchase food service equipment to meet individual needs. J. F. Latcham.—p. 30.
Calories cost money. A. R. Hazzard.—p. 40.
A May Day supper tray. M. R. Harris.—p. 42.

Vol. 47, May 1939

*Better food service at lower cost for Presbyterian personnel. B. Hunzicker.—p. 44.
Vitamin comments.—p. 45.

FOOD SERVICE EQUIPMENT. Policy of purchasing equipment is based on the determination of need, the drawing up of specifications of items needed, demanding that bidders qualify their items before bidding either by sample or specification, and accepting the lowest qualified bidder.

BETTER FOOD SERVICE AT LOWER COST. How an old dining room for employees of the Presbyterian Hospital was renovated and where savings were made.

Hotel Management

Vol. 35, May 1939

Announcing a program for five-star kitchens.—p. 10.
*A job for every graduate.—p. 16.
*Why guests don't come back. G. Andrews.—p. 30.
*1939 brings you our fifth annual salad bowl.—p. 34.
*Equipment news for May.—p. 76.

TRADE SCHOOL. The Delgado Trade School at New Orleans offers young men, over 17 years of age with a grammar school education, a 3-year course in commercial catering including food preparation, bookkeeping, checking, use of cash register and supervising of food service. The students take several local trips to food packing plants, steamships, hotels, restaurants

and kitchens. Classroom instructions tie up the work in preparation departments. Tuition is free and luncheon is given; students pay for board, room and laundry.

HOTEL GUESTS. A survey of credit card guests return visits by the Seminole Hotel revealed reasons covering the front office guest room, air-conditioning, food, service, employees and their own individual personal habits. Of the 15% of the total who answered the letter questionnaire, 70.5% had not returned to Florida, 11.2% had been transferred, 1.7% were deceased, 1.4% had changed their employment and 3% gave specific reasons that embraced details of hotel operation.

SALAD BOWL—1939. Salads are illustrated and described to help solve summer budget problems. Fruits, vegetables and chicken are used in wide variety and in 22 interesting combinations.

EQUIPMENT NEWS. General Slicing Corporation has a new rotary meat dicing machine which cuts meat within $\frac{1}{16}$ inch of the bottom of the roast. Frosted Foods has a "food cost per serving chart" for various localities. It is adjustable to market prices. The Hill Shaw Company are the makers of a new china filter for glass coffee brewers. It eliminates filter cloths or paper and fits all makes. It cannot fall out and does not need to be removed for cleaning. U. S. Slicing Machine Company has a new improved machine called the "Delicator". A series of 58 blades cuts meat in criss-cross fashion without loss of juice and reduces cooking time of cube steak four-fifths. A heavy duty knife sharpener, electrically operated and with adjustable slots for service and butcher knives is being manufactured by Wulff Manufacturing Company. "The Phantom Doorman", a photo-electrically controlled automatic door opener, may be installed conveniently in any ordinary circuit and costs only $.06 a day to operate. It is manufactured by the Yale and Towne Manufacturing Company.

Modern Hospital

Vol. 52, May 1939

*Serves special diets.—p. 40.
*Logical plan for employe promotions. J. W. Stephan and J. A. Hamilton.—p. 46.
*The impression employes give. M. P. Tanner.—p. 51.
Enclosure for pay envelope. J. H. Hayes.—p. 64.
*Menu calls for frozen desserts. E. H. Handy.—p. 88.
*Eating around the world. M. Baugh.—p. 90.
*Purchasing cauliflower. M. M. Buckles.—p. 94.

Vol. 52, June 1939

*Essentials for proper refrigeration. A. J. Hockett.—p. 66.
Properties of refrigerants. A. J. Hockett.—p. 72.
*How to start a food clinic. M. Warne.—p. 90.
*Planning the bake shop. M. E. Terrell.—p. 94.

SPECIAL DIET TEA-ROOM. A tea-room in the Methodist Hospital, Madison, Wisconsin, supplies upon request special diets ordered by the doctor for hospital patients as well as for others living outside. Reasons why it was started and the prices of the special diets are included.

EMPLOYEE PROMOTION. The reasons why there should be a means of promotion for all employees in an institution and how this was worked out in the Cleveland City Hospital.

EMPLOYEES. Explains how the reputation of a hospital depends upon the attitude of its employees and ways to develop the proper attitude toward the public.

FROZEN DESSERTS. Value of frozen desserts in special diets and three recipes for ice cream.

EATING AROUND THE WORLD. How the nutritionist can teach children to develop an appetite and a real liking for plain wholesome food.

PURCHASING CAULIFLOWER. Tells the story of cauliflower, how to select it, its season, its preparation and service. Charts showing yield and cost per serving of this vegetable are also included.

REFRIGERATION. An attempt has been made to gather together refrigerator problems which arise within the hospital. A brief review of the underlying principles of refrigeration is presented.

FOOD CLINIC. To start a food clinic, there must be a properly trained dietitian, a place where instructions may be given to the patient who has been referred to the dietitian by the doctor, record forms on which to record nutrition history, for noting progress of the patient, and forms to write out the dietitian's instructions.

PLANNING THE BAKE SHOP. After determining proper size, organize work into four main units —bread making, dessert preparations, storage and distribution of products, and pot washing and storage of clean utensils. The volume and type of foods required must be estimated carefully in order to plan for adequate equipment.

The Nation's Schools

Vol. 23, May 1939

*Starting right with floors. L. Ledbetter.—p. 43.
*Cafeteria at Norwalk High School. E. A. Mason.—p. 82.

FLOOR MAINTENANCE. This article describes proper treatment and maintenance of waxed, linoleum, and oiled floors. After a new wood floor is properly sanded and inspected for flaws, it may be sealed. Apply the seal across the grain, smooth by a lengthwise mopping, allow to dry 24 hours, buff with a floor machine and steel wool, and sweep floor to remove particles. Follow this procedure 3 times, buffing floor more lightly each time. The floor is then ready for an application of liquid self-polishing wax.

The principle underlying the care of linoleum is that any agent which will remove the linseed oil will cause deterioration and cracking of the linoleum. The application of thin coat of wax is the best way to maintain linoleum. Linoleum should never be varnished or sealed. Dampened sawdust should be used rather than an oily floor sweep for all linoleums. Terrazo floors should be honed and cleaned with mild soap and water solution and then treated with liquid wax or terrazo seal.

Two applications of linseed oil and turpentine, in the proportion of 1 to 2 respectively, should be used for treating new pine or hardwood floors. To oil-clean the floor after sealing, mop floor with a solution of turpentine and floor oil, in the proportion of 1 to 4 respectively. Oil floors that are to receive hard wear should be thoroughly cleaned and sealed with 2 applications of linseed oil and turpentine, 1 to 3 parts respectively. This seal may be followed with self-polishing or buffing wax.

NORWALK HIGH SCHOOL CAFETERIA. Complete in every detail, the Norwalk High School Cafeteria at Norwalk, Connecticut, combines attractiveness with practicality. The dishwashing unit across the dining room from the serving area, is partitioned off from the dining room. Soiled dishes are received from 2 slides, washed in the stainless steel machine, and dispatched on to a clean dish table. Dishes are carried to the service counter by trucks.

The service counter is between the kitchen and the dining room. The set-up of foods and the enamel and stainless metal counter is duplicated on 2 sides of the room. The counters meet at the ice cream unit and cashier's desk. Both the faculty and students are served from the same counters. The faculty eat in a separate room where they may have coffee or tea prepared in the room.

One end of the kitchen is planned for the cook and the baker. Both units contain the newest of heavy duty equipment, arranged for use of both cook and baker. At the other end of the kitchen is the sandwich and salad station. The ice box for this unit also opens from the serving counter side. A freight elevator at this end of the room carries waste to the ground floor and supplies to the kitchen. The receiving room on the ground floor is equipped with a scale and a storeroom. The manager's office is situated at this end to provide a full view of the kitchen.

The entire cafeteria and all of its units are well lighted both naturally and artificially. They are either air-conditioned or provided with fans to remove stale air.

Occupations

Vol. 17, May 1939

*An occupational tour of Treasure Island. S. D. Benbow.—p. 678.
*Occupations at the New York World's Fair. E. G. Becker.—p. 680.
*Possible effects of the wage-hour law on employment opportunities and status. H. Feldman.—p. 688.
Youth conference considers food, clothing, photography.—p. 739.
*New York career tours for women visiting World's Fair.—p. 741.

OCCUPATIONS AT TREASURE ISLAND. Treasure Island, San Francisco, offers exhibits of processes and products rather than occupations. One of the most clever displays is a small home with frame of pre-fabricated steel. It required one day to build the foundation and 8 days to construct the entire house. This exhibit should be of interest because it illustrates a new type of construction and its effect on the building trade.

OCCUPATIONS AT NEW YORK WORLD'S FAIR. Of especial interest to dietitians is the food

exhibit of the Manufacturing Industries and Trades division. The exhibit presents 100 bakers mixing dough, fashioning loaves of bread, transporting it to and from ovens, wrapping it in paper and sending it on its way to the consumer.

FAIR LABOR STANDARDS ACT. The Fair Labor Standards Act, effective since October 1938, sets a minimum wage for employees of industries engaged in interstate commerce. The minimum wage at present is 25¢ an hour, to be 30¢ an hour in 1939, and 40¢ an hour by 1945. This act has brought forth startling results already.

First, industries taking advantage of the low wages in small towns of the Middle-West and South are moving into large industrial cities. In so doing, they are sacrificing the advantages of low wages for the opportunities and facilities of a large city. The result is that there is a loss of employment in small towns and an increase in employment in the large cities.

Second, industries forced to pay higher wages will no doubt substitute present employees with a higher type of personnel. The result will be that the people whom the act was originally intended to help will be barred by the higher qualifications now demanded for the higher wages.

Third, older employees whose efficiency is less than the young will be dismissed if the present minimum wage hour is continued. A possible amendment might be made to the act to allow lower wages for 5% of the employees who may be less efficient.

Fourth, industries at present resent paying such high wages for apprentices, learners, and workers of lower levels of intelligence. Instead, they prefer employing workers of high grade levels not ordinarily required for such occupations.

Fifth, setting a maximum hour week with increased wages for overtime may result in a vicious circle. Higher wages will result in the employment of more efficient workers. This will reduce the number of employees needed. If this is not the case, factories will install more mechanism, thus reducing the number of unskilled jobs available.

Sixth, employment of children between the ages of 14 and 16 is to be under the jurisdiction of Children's Bureau of the Department of Labor. Hazardous jobs are prohibited for children between 16 and 18. This should result in increased employment for adult workers and increased schooling for children.

CAREER TOURS. Career tours have been organized at a minimum charge of 50¢ for the benefit of business and professional women. Among the trips scheduled is a tour of New York markets, test kitchens, chemical laboratories, textile, laundry and engineering laboratories maintained by a national women's magazine. This should be of especial interest to women studying materials and household appliances. Visitors also have the opportunity to meet and talk with staff members.

Personnel Journal

Vol. 17, April 1939

*Your employee wants you to know him. Employee relations bureau.—p. 357.
*Arranging the right pay. E. N. Hay.—p. 364.
*Hotel management becomes democratic. H. E. Stats.—p. 371.

EMPLOYEE MORALE. Morale surveys have been used in determining wants of employees. Employees, executives and store managers, when given a list of items to rate privately and secretly according to importance attributed to each, evaluate the following factors quite differently: proper evaluation of the job; interesting job; fair pay; complete executive understanding of the job; personal problem discussion with executives; merit system of promotion; good physical working conditions; and secure job as long as work is good. Executive and employee ratings were found to be very different: executives rated job security first and employees rated it last; employees rated job interest first and executives gave it fourth place. Men and women employees disagreed on the importance of working conditions which each group considered essential. These results indicate that the executive does not know his employees' wants.

RIGHT PAY. Factor comparison method of job evaluation sets up a system to determine amount of pay by a careful study of a detailed job analysis and comparing the mental effort, skill, physical effort, responsibility and working conditions it necessitates. These factors common to all jobs are rated as to their importance in vari-

ous jobs and their relation to salary paid. A certain value is given to each factor depending on the kind of a job.

DEMOCRATIC MANAGEMENT. Changing the operation of a small hotel of approximately 500 employees from a system of empirical management with loosely defined responsibilities and limited coordination to a democratic organization well coordinated with interested and cooperative executives was done by progressive analysis of the plan of departmentalization and assignment of authority and constant study of the present methods of procedure. By using one organization chart and changing it when necessary management has become very democratic. Present functioning includes: executive conference board defining duties and powers of committees; key executives having full authority in departments and reporting to their corresponding committees; official contact with top management through boards and committees; liaison with staff departments through committees; and weekly committee meetings.

NEWS NOTES

Preliminary Program, American Dietetic Association, Los Angeles, August 26–31

Saturday, August 26

9:30 A.M. EXECUTIVE BOARD MEETING, Anna M. Tracy, presiding

Sunday, August 27

10:00 A.M. PLACEMENT BUREAU BOARD MEETING, Dorothy A. Milavetz, presiding

Morning—SUGGESTED TRIPS:

Los Angeles Museum in Exposition Park

Places of Worship: San Gabriel Mission, Built in 1799; Our Lady Queen of the Angels, Oldest Church in Los Angeles, Established in 1822

1:30 P.M. JOURNAL BOARD MEETING, Martha Koehne, Ph.D., presiding

1:30 P.M. HOUSE OF DELEGATES, Maniza Moore, presiding

2:00–5:00 P.M. TEA. Guests of Home Economics Association, Miramar Hotel, Santa Monica

8:00 P.M. EXECUTIVE BOARD MEETING, Anna M. Tracy, presiding

Evening—SUGGESTED TRIPS:

China City—Oriental Center. Excellent Chinese Food

Olvera Street—Real Mexican Atmosphere and Food

Griffith Observatory and Planetarium—Theatre of the Heavens. Admission 25 cents

Broadcasting Station Tour—Hollywood. Admission 40 cents

Grauman's Chinese Theatre—Hollywood

Monday, August 28

9:00 A.M. REGISTRATION

10:30 A.M. OPENING GENERAL SESSION, Anna M. Tracy, presiding

Obesity, Eaton M. McKay, M.D., Scripps Metabolic Clinic, La Jolla

12:30 P.M. WELCOMING LUNCHEON, Katharine Brown, presiding

Greetings:

Helen E. Walsh, President, California Dietetic Association

Harry H. Wilson, M.D., President-Elect, California Medical Association

Professor B. M. Allen, University of California at Los Angeles

Speakers:

1. Basil Rathbone
2. To be announced later

3:00 P.M. ANNUAL BUSINESS MEETING, Anna M. Tracy, presiding

Reports of Officers, Section and Committee Chairmen

Election of Officers

8:00 P.M. GENERAL SESSION, Mrs. Beula B. Marble, presiding

1. Preserving the Dietetic Value of Frozen Foods, E. M. Chace, Laboratory of Fruit and Vegetable Chemistry, U. S. Dept. of Agriculture, Los Angeles
2. The Use of the Elimination Diets in the Diagnosis and Treatment of Food Allergy, Albert H. Rowe, M.D., Oakland
3. The Dietitian's Place in the Hospital Research Program, Agnes Fay Morgan, Ph.D., University of California

Tuesday, August 29

8:00 A.M. BREAKFAST MEETING. Heads of Home Economics Departments and Directors of Approved Training Courses, Helen S. Mitchell, Ph.D., presiding

Discussion: Minimum Preparation Required of Students Entering Approved Training Courses. Outline #1

9:00 A.M. SECTION MEETING—COMMUNITY EDUCATION, Helen Walsh, presiding

Reports of Committee Chairmen

1. The Nutrition Program in Health and Welfare Agencies, Sophia Halsted
2. The Academic Training Offered for Nutritionists and Home Economists Planning To Enter the Health and Welfare Field, Cecilia Schuck
3. Minimum Qualifications for Home Economists and Nutritionists, in Health and Welfare Agencies, Helen A. Hunscher
4. Public Information on Nutrition, Essie Elliott

10:30 A.M. GENERAL SESSION

1. Behind the Scenes in the Dining Car Department of a Great Railroad, Mrs. Grace Merrill, Union Pacific Railroad
2. This Business of Eating, Mary I. Barber, The Kellogg Co., Battle Creek, Mich.

3. School Lunchrooms—Whither Away, A. A. Knoll, Long Beach Public Schools

12:30 P.M. EXHIBITORS' LUNCHEON, Isabel N. Young, American Can Company, presiding

3:00 P.M. GENERAL SESSION

1. The Newer Knowledge of Vitamin C in Health and Disease, E. Neige Todhunter, Ph.D., State College of Washington
2. The Ascorbic Acid Metabolism of College Students—A Cooperative Study, Margaret L. Fincke, Ph.D., Oregon State College
3. Vitamin E in Human Nutrition, Herbert M. Evans, Ph.D., University of California

Evening—Hollywood Bowl—"Symphony Under the Stars." Admission 50 cents

China City

Olvera Street

Broadcasting Station—Hollywood

Griffith Observatory and Planetarium

Theatres:

"The Drunkard." 8:30 P.M. Admission $1.10-$1.65. Grauman's Chinese Theatre

Night Club Tour. 8:00 P.M. All expense tour—$5.95. Visit three night clubs with supper and floor show at the Biltmore Bowl

Wednesday, August 30

8:00 A.M. BREAKFAST MEETING—HOSPITAL REUNIONS

9:00 A.M. SECTION MEETING—PROFESSIONAL EDUCATION, Helen S. Mitchell, Ph.D., presiding

Reports of Committee Chairmen

1. Supplement to Outlines of Courses in Nutrition for Nurses: Planning a Nutrition Laboratory, Helen Hubbell, Ph.D.
2. Teaching Nutrition to Medical and Dental Students, Mrs. Anna dePlanter Bowes
3. Visual Education, Catherine Koch
4. Prospectus for Hospital Courses for Student Dietitians, Florence E. Bateson
5. Academic Advancement for Dietitians Without Degrees, Emma L. Feeney

10:30 A.M. GENERAL SESSION

1. Taro as a Source of Calcium and Vitamin B, Two Common Dietary Deficiencies in Hawaii, Martha Potgieter, Ph.D., University of Hawaii
2. Health Education, James G. Stone, Los Angeles Tuberculosis and Health Association

12:30 P.M. LUNCHEONS

1. State Presidents. Mrs. Beula B. Marble, presiding
2. State Bulletin Editors and Publicity Chairmen. Edith Barber, presiding

3:00 P.M. GENERAL SESSION

1. The Present Treatment of Diabetes Mellitus, W. D. Sansum, M.D., The Sansum Clinic, Santa Barbara
2. Questions and Answers, Anna M. Tracy, presiding

4:30 P.M. SECTION MEETING—ADMINISTRATION, Grace Bulman, presiding

Reports of Committee Chairmen

1. Survey of the Hospital Dietitian and Her Job, S. Margaret Gillam, New York Hospital
2. Bibliography, Emma Holloway, Pratt Institute
3. The Trained Dietitian in College Food Service, Fern W. Gleiser, Iowa State College
4. Hospital Kitchen Plans, Mary M. Harrington, Harper Hospital
5. Food Cost Accounting in Small Institutions, Barbara R. Robson, Berkeley, California
6. Check Sheet for the Manager's Inspection of the Food Units, M. Faith McAuley, Chicago
7. Evaluation of Methods of Food Service in Large Institutions, Theresa Goetz, Veterans Administration, Milwaukee

7:30 P.M. GROUP DINNERS

1. Consultation Work and Private Clinics
2. Children's Hospitals
3. Small Hospitals
4. Large Hospitals
5. Public Hospitals—Speaker, Mrs. Christine Pensinger, Dept. of Public Welfare, State of Illinois
6. Teaching Nutrition to Medical and Dental Students
7. Public Health and Welfare Workers
8. Private Mental Hospitals
9. College Food Service

10. School Lunchrooms
11. Hospital Food Clinics

Thursday, August 31

8:00 A.M. BREAKFAST MEETING—COLLEGE REUNIONS

9:00 A.M. SECTION MEETING—DIET THERAPY, Frances MacKinnon, presiding

10:30 A.M. GENERAL SESSION

1. The Social Worker Looks at the Nutrition Program, Arlien Johnson, Ph.D., Graduate School of Social Work, University of Southern California
2. Dietitians in the Vanguard, Effie I. Raitt, University of Washington

Afternoon—TRIPS

Tour of Hollywood and Beverly Hills and a Visit to—

Warner Brothers' Motion Picture Studio—2:00–5:00 P.M. Cost $2.75

Huntington Library and Art Gallery; California Institute of Technology. Pasadena. Transportation $1.50

Los Angeles General Hospital

7:30 P.M. SPANISH FIESTA, Anna M. Tracy, presiding

Friday, September 1

9:30 A.M. to 10:00 P.M. EXECUTIVE BOARD MEETING

TRIPS

Santa Catalina Island—A Two-Hour Ocean Voyage with Luncheon at St. Catherine Hotel and a Ride on the Glass Bottom Boat. 8:00 A.M. to 7:30 P.M. Approximate cost $6.00

Riverside Mission Inn—Luncheon at the Inn and a Trip through an Orange Packing Plant. 9:00 A.M.–4:00 P.M.

Hollywood and Beverly Hills Tour with Visit to Motion Picture Studio. Leave at 2:00 P.M.–5:00 P.M. Cost $2.75

Huntington Library

Broadcasting Station

Los Angeles General Hospital

Hollywood Bowl Concert

Night Club Tour

Saturday, September 2

A Two-Day Trip to San Diego and Old Mexico which will include a Visit to Laguna, Scripps Metabolic Clinic, La Jolla, and Hotel del Coronado. Returning Sunday afternoon. Approximate cost $15.00

Santa Barbara—

An Optional One or Two-Day Trip to Santa Barbara which will include a Visit to the Santa Barbara Mission, Luncheon at the El Paseo, and a Visit to the Sansum Clinic.

One-Day Trip. All Expense Tour. Approximately $6.50

Two-Day Trip. All Expense Tour. Approximately $12.50

Further Information on the Los Angeles Meeting. Members who are planning to visit San Diego while in the West may have their round trip ticket routed through San Diego at no additional cost.

Exceptional entertainment is promised visitors to the Ambassador Hotel during the annual meeting of the A. D. A. The famous dance team, Paul and Grace Hartman, direct from Dorchester House, London, will be appearing nightly in the Cocoanut Grove of the Ambassador. Orrin Tucker and his orchestra will play evenings and at the Tea Dance on Saturday afternoon.

On Monday, August 28, following the Business Meeting, refreshments will be served in the Fiesta Room. Those who have attended previous teas at annual meetings will look forward to this opportunity to meet old friends and make new acquaintances.

California dietitians take this final pre-convention opportunity to tell all members from other parts of the country that they will be made welcome in all sections of the state dietetic association at times other than scheduled trips. Hospitality headquarters are as follows: Bay Section, Charlotte Sloan, Stanford Hospital, San Francisco; Santa Barbara, Ruth Bowden, Sansum Clinic; Los Angeles, Katharine Brown, Moore-White Clinic; San Diego, Helen B. Anderson, Scripps Clinic, La Jolla. All will be happy to be of assistance to visiting dietitians.

Further Details For Those Visiting Seattle En Route to the Los Angeles Meeting. A committee of local dietitians will be in the lobby of the New Washington Hotel to greet the arriving travelers on August 22. Seattle dietitians are planning to motor with the visitors on the trip to Mt. Ranier. If any of the visitors would prefer to stay in Seattle for the day rather than

to take the Mt. Ranier trip, arrangements will be made for them to spend the day elsewhere. Between dinner and train time on Wednesday, cars will be available for a drive around the city.

For those who will arrive in Seattle at any other time, the dietary department at King County Hospital will be hospitality headquarters for visiting dietitians. Telephone the dietitian on duty at any hour of any day, and she will be glad to direct visitors or serve in any way she can. She will have "where to go" information available, and members may write ahead of time for information or assistance.

Seattle has many attractions. Out of town, there are several resorts within 50 miles, with mountains and water scenery, fishing and other sports. Places to see are: Mt. Ranier National Park, Mt. Baker National Park, the Olympic Loop Drive, Coulee Dam and Deception Pass. Within the city limits there are interesting sightseeing drives, the University of Washington, and the dietary departments of the following hospitals: King County, Swedish, Virginia Mason, and Orthopedic. Or visitors may cruise on the lakes or Puget Sound. Seattle dietitians will be delighted to welcome visitors at any time this summer, and after the meeting as well as before it.

American Home Economics Association. The 32nd annual meeting, held in San Antonio, Texas, June 20–23, embraced problems ranging from the federal low-cost housing program, public health and educational objectives, to school lunch projects, consumer education and family nutrition. The program included addresses and group discussions by government officials, educational leaders, teachers and research experts. Interspersed with subjects of practical interest to homemakers, such as clothing selection, family health and nutrition, and comfort in the farm home, were discussions of education for family living in present-day society, pending legislation affecting home and school, the contribution of home economics to social welfare and public health work, and effective consumer information.

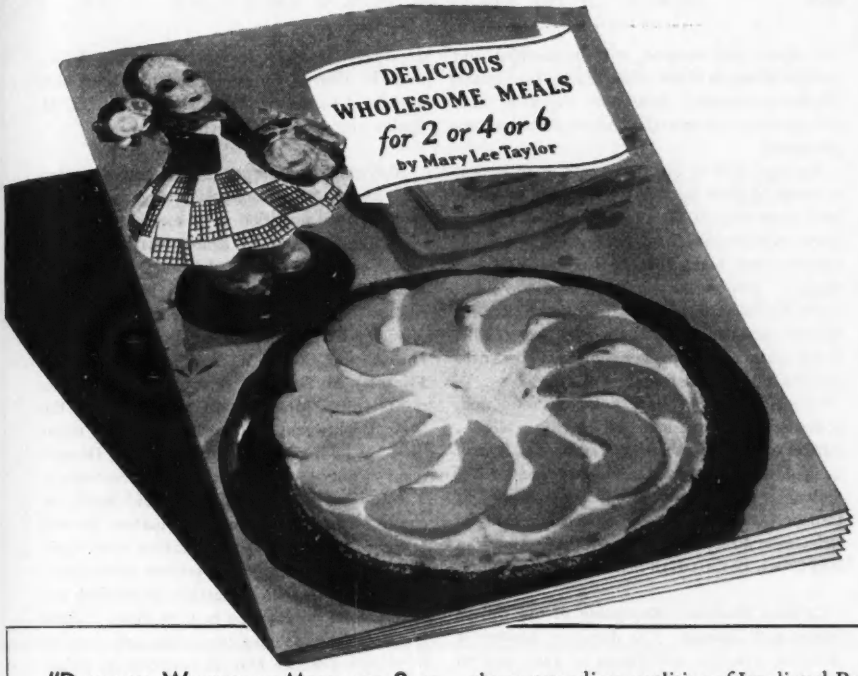
In recognition of the association's growth, a birthday luncheon was held on Friday at which special honors were paid to some of the early members, and at which Dr. Helen Judy Bond, the president of the association, was toastmistress.

Research workers discussed how to popularize their findings. Working relationship between home economics, social welfare and public health agencies was the subject of one meeting which emphasized the rapidly developing rôle of the home economist in community welfare agencies and rural health work. Another group, home economists who are applying their technical knowledge in hospital dietetics, lunchroom management, and large-scale housekeeping, discussed means of making school lunchrooms not only more efficient, but also more influential in helping to develop good food habits in children. Speakers included Dr. Mary de Garmo Bryan, Columbia University, New York City, and Mrs. Quindara Oliver Dodge, Simmons College, Boston.

At the request of Anna M. Tracy, president of the A. D. A., Selma Streit, past-president of the Texas Dietetic Association, attended the meeting as official representative of the A. D. A.

American Institute of Nutrition. Of particular interest to dietitians was the symposium on food fortification at the sixth annual meeting of the association in Toronto on April 26. With Professor E. V. McCollum presiding, the following addresses were presented: "Basic Nutrition Principles Involved in the Fortification of Foods", Agnes Fay Morgan, Ph.D., University of California; "Fortification of Foods in a General Program for Better Nutrition", Lydia J. Roberts, Ph.D., University of Chicago; "Public Health Aspects of Fortification of Foods", W. H. Sebrell, M.D., U. S. Public Health Service, Washington, D. C.; "Governmental Control Problems in the Fortification of Foods", E. M. Nelson, Ph.D., Food and Drug Administration, U. S. D. A., Washington, D. C.; "Viewpoints of the Food Industries Regarding Fortification", Alonzo Taylor, M.D., Chairman of the Research Committee, General Mills, Inc., Minneapolis.

American Red Cross Nurse. A one-reel motion picture entitled "Footsteps", which dramatically portrays the training of the Red Cross nurse and the humanitarian work she performs, has been prepared for free distribution by the American Red Cross. The purpose of this documentary film is to acquaint the public with the scope and nature of the activities of the Red Cross. It illustrates the intensive educa-



"Delicious, Wholesome Meals for 2 or 4 or 6"—the new Pet Milk cookbook contains 67 tested recipes for dishes, particularly suitable for summer, which include just as much milk as possible, yet have proper appearance, flavor, consistency and texture. These recipes can be most helpful in putting the "quart of milk a day," generally recommended by nutritionists, into appetizing, delicious food that is more wholesome because of its milk and extra vitamin D content.

How It Is Accomplished

The extra-milk richness of these dishes is due to the fact that in creating the recipes, full advantage has been taken of one of the outstanding qualities of Irradiated Pet Milk—its double richness. Undiluted Pet Milk puts into food more than twice the amount of whole milk substances that ordinary milk would supply. It can be diluted with less than an equal amount of another liquid—meat stocks, fruit juices, vegetable liquids—to increase the mineral and vitamin content of the food and to improve its flavor. Diluted with an equal amount of water, Pet Milk contains 4.06% butterfat which is higher than that generally provided by ordinary milk. Because Pet Milk has been irradiated, all food made with it contains extra vitamin D.

Irradiated Pet Milk still costs less generally than ordinary milk—less than coffee cream—much less than whipping cream.

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tion given the student, with interesting and colorful glimpses of the inside of a great hospital. Classroom lectures, laboratory research, bedside practice and operating room procedure are portrayed.

Another field of the Red Cross work is that of home hygiene nursing. The nurse instructs her community in the care of the sick and injured, the avoidance of contagion, and other matters that make for the well-being of humanity. Juniors are trained to take care of the home and the ill. The final sequence pictures the self-sacrificing work of the Red Cross public health nurse who serves in remote sections where doctors, nurses and hospitals are few.

"Footsteps", a William J. Ganz Production, is available for free loan to churches, colleges, schools, clubs and other organizations. It may be had in standard 35-millimeter size or 16-millimeter size without cost (except for a slight transportation charge) by writing to Douglas Griesemer, director of public relations, American Red Cross, 19 East 47th Street, New York City.

Catholic Hospital Association of the United States and Canada. The directory number of *Hospital Progress* distributed in June lists in the United States 673 Catholic hospitals and 195 allied agencies, representing 12.4 per cent of the entire number of hospitals and related institutions as listed in the statistics of the American Medical Association. The number of beds constitute 27.8 per cent of the beds in non-governmental hospitals, a higher average than the percentage of institutions. The Catholic institutions contain 33.2 per cent of the beds in the non-profit institutions and 80.5 per cent of the beds in the Church-owned hospitals. Of the 673 Catholic hospitals in the United States, 208 or 29 per cent are approved for medical internship. This percentage contrasts favorably with the percentage of all hospitals which are approved for internship, namely 11.8 per cent. In the Catholic hospitals in the United States, 16,177 registered nurses are engaged, 6088 being sister nurses, and 10,089 lay nurses. In addition there were 23,308 student nurses in 1938, a total nursing personnel of 39,485.

Council on Foods, A. M. A. According to the minutes of the meeting of the Board of Trustees of the American Medical Association as reported in the association's *Journal* for March 25, 1939, Dr. C. S. Ladd of Bismarck, N. D., and Dr. Tom D. Spies of Cincinnati have been appointed to the council to succeed Drs. E. M. Bailey and Joseph Brennemann.

Nutrition Conference. A nutrition conference for all professional and lay groups interested in good nutrition as an essential for individual and community health was held at the New York State College of Home Economics at Cornell University, Ithaca, July 17–22. It was cooperatively sponsored by the college and the New York State Departments of Education, Health and Social Welfare in Albany. Dr. Elizabeth M. Gardiner, director of the Division of Maternity, Infancy and Child Hygiene of the State Department of Health and special agent for the Children's Bureau of the U. S. Department of Labor, was chairman of the conference.

According to Mrs. Kathleen H. Small, in charge, Publications and Information Service of the college, this was the first time that representatives of so many diversified professional and lay groups joined together to consider nutrition problems common to all of them. Those in attendance included physicians and dentists in private practice and all branches of public health, county and city leaders of homemaking departments, school board members and representatives of all school systems interested in health and nutrition, Farm Bureau, Home Bureau and 4-H Club agents, and cafeteria managers.

Among the speakers and their subjects were the following: "The Family Approach to Nutrition", Flora Rose; "Why We Study Foods and Nutrition", Helen Monsch; "Indices of Good Nutrition", Dr. Elizabeth Gardiner; "What's New About Vitamins?" Dr. Clive M. McCay; "Adequate Meals for the Family", G. Dorothy Williams; "Food Needs in Growth", Dr. Margaret Cheney; "Why We Educate Adults", Flora Thurston; "New Research in Minerals", Marguerite Queneau; "Feeding Little Children in the Family Group", Helen Monsch; "Nutrition: An International Problem", Sybil Smith; "Helping Little Children Learn to Like Their Food", Katherine Reeves; "The Parent and the Nutrition of the School Child", Mary Bowen; "The School Nutrition Program", Mary McCormick; "The Adolescent and his Eating Habits", Mark Entorf; "Allergy", Dr. Will

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AT THE CONVENTION OF

THE AMERICAN DIETETIC ASSOCIATION

To be Held in

LOS ANGELES, CALIFORNIA

AUGUST TWENTY-SEVENTH TO THIRTY-FIRST

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JULLICUM, the original Flavored Liquid Rennet, was created for simple mixing, lower costs. A large assortment of natural flavors seemed important and many were provided; from time to time other flavors are added after trial has proved their worth.

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Chocolate	Coffee	*Lemon
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Wine, *Sherry*	Plain Unflavored, *without sugar*	

One tablespoon congeals and flavors one pint milk, the pint bottle, 32 pints; price $1.25. Packed in cases of *6 and 12 pints, any assortment, prepaid delivery.

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Plain Jullicum, formerly Shinn-Kirk Liquid Rennet, is the oldest rennet product in America; it has been sold by the Drug and Fancy Grocery trades since 1857.

Cook Spain; "How Families Spend Their Money", Dr. Faith M. Williams.

Among the other interesting features was a panel discussion on "Community Problems in Nutrition" in which a physician, a welfare worker, home demonstration agent, public health nurse, and school superintendent took part.

The New Food, Drug, and Cosmetic Legislation. The passage of the Food, Drug, and Cosmetic Act of 1938 and the Wheeler-Lea Amendments to the Federal Trade Commission Act has led to sweeping changes in the legal protection of the consumer and created a host of problems for the producers and distributors of the three commodities affected. The winter issue of *Law and Contemporary Problems*, the Duke University Law School quarterly, presents a 182-page symposium of nine articles designed to contribute to an understanding of this important new legislation. Copies are available on application to the school at Durham, N. C., for 75 cents each.

The first article, "The Food, Drug, and Cosmetic Act of 1938, Its Legislative History and Its Substantive Provisions" by D. F. Cavers of the Duke Law School, editor of the symposium and an adviser to the Food and Drug Administration in the drafting of this legislation, traces the evolution of the law in Congress and compares its definitions of adulteration and misbranding with those of the old Act of the "Tugwell Bill" and its successors. The second article presents a detailed analysis and appraisal of the novel provisions for "The Formulation and Review of Regulations Under the Food, Drug, and Cosmetic Act." Its author, R. F. Fuchs of Washington University School of Law, is a leading student of this phase of administrative law. "The Enforcement Provisions of the Food, Drug, and Cosmetic Act" is the subject of the third article by Frederick P. Lee, formerly legislative counsel to the Senate and general counsel of the Federal Alcohol Control Board.

The augmented powers of the Federal Trade Commission over false advertising are scrutinized in the fourth article, "The Control of False Advertising Under the Wheeler-Lea Act", by Milton Handler of the Columbia Law School, one of the draftsmen of the "Tugwell Bill" and author of numerous studies of advertising and other trade regulation problems.

The succeeding group of three articles deals with the new legislation from the standpoint of affected interests. James F. Hoge, counsel to The Proprietary Association, presents "An Appraisal of the New Drug and Cosmetic Legislation from the Viewpoint of These Industries". R. W. Austin, of Breed, Abbott and Morgan, attorneys of New York City, writes on "Federal Food Legislation of 1938 and the Food Industry". The consumers' point of view is developed in "Consumers Appraise the Food, Drug, and Cosmetic Act" by Mrs. H. D. Baldwin and Miss F. Kirlin, officers of the National League of Women Voters, who were active in enlisting women's organizations in support of Senator Copeland's measure.

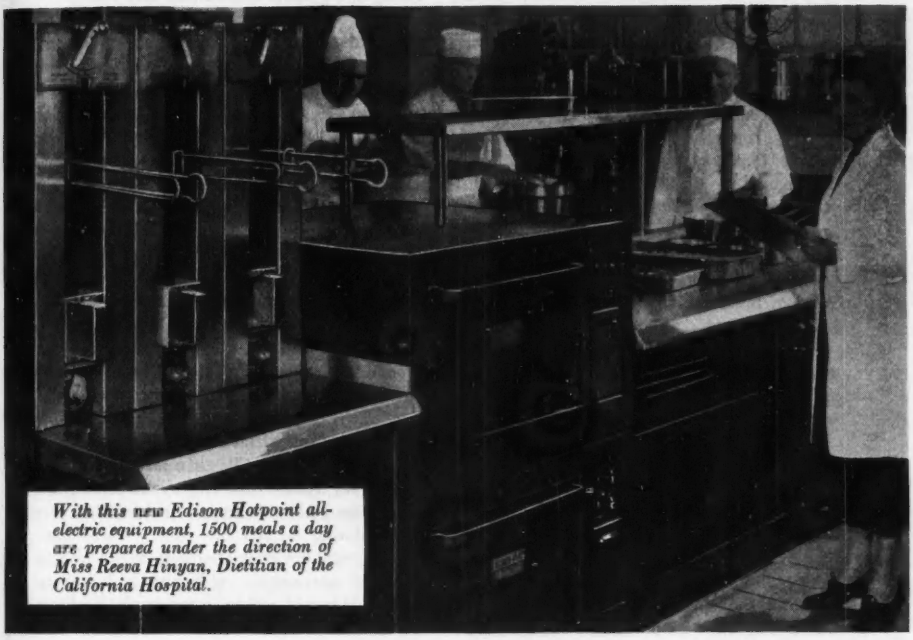
The eighth article, by Saul Nelson, Department of Labor economist, is devoted to the study of a problem which promises to be of increasing consequence in the future, "The Representation of the Consumer in the Federal Government". How states can best adjust their existing food and drug laws to the new federal legislation is the theme of the ninth article, "State Food, Drug and Cosmetic Legislation and Its Administration", by Ole Salthe, technical adviser.

Conference on Education and Problems of Family Life. The conference, under the direction of Lydia J. Roberts, chairman of the Department of Home Economics, University of Chicago, was held June 25–27, at Judson Court, 1005 East Sixtieth St., Chicago. The general theme of the program was "What Are the Problems of Family Life Today and What Responsibility Should the School Assume for Meeting Them?" Topics covering trends in contemporary family life, the content of education for family life, the place of family education in the curriculum, tensions and conflicts in the modern family, technics and materials for teaching, and the rôle of the school in preparing students for family life, were discussed by representative educators and others. Special courses in connection with the conference were offered on family relations and education for family life.

American Museum of Health, New York World's Fair. The museum, which is located in the Hall of Man in the Medicine and Public Health Building, was dedicated on Saturday,

Electric Kitchen Superiority

proven to California Hospital



With this new Edison Hotpoint all-electric equipment, 1500 meals a day are prepared under the direction of Miss Reeva Hinyan, Dietitian of the California Hospital.

● Two gruelling years of punishment, and the Edison Hotpoint Electric Kitchen in the California Hospital is still delivering its original, economical and service-free operation. True proof of Edison Hotpoint superiority.

Miss Reeva Hinyan, Dietitian for patients of both the California Hospital and the children's department conducted as the California Babies Hospital says, "Hospital patients are hard to please in the matter of food menus. Nourishing food is essential, but it is a problem to stimulate appetites. We feel that our all-electric kitchen has improved our cooking, and made foods more appetizing."

See this wonderful kitchen at the California Hospital while at the convention in Los Angeles August 28-31. Also see our exhibit in booth 45.

The decision to replace other fuel with electricity was the result of careful investigation and comparison. The hospital management carefully studied equipment and operating costs. Above all, the *results* of electric cookery were analyzed, since nourishing food is vital to patients.

R. E. Heerman, Superintendent of the California Hospital states, "Sound business principles had much to do with our decision to install an all-electric kitchen. We believe that our electric equipment will outlast other types. Operating costs are in line, and an electric kitchen saves in maintenance expense."

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June 17, by Mayor LaGuardia of New York City. Said Mayor LaGuardia, "The medical profession is quick to expose a faker and a charlatan. Sometimes we, in my profession, elect him to office. The politician is often like the poor grade of patent medicine. He talks too much and does too little." Among the speakers were Dr. John L. Rice, commissioner of health; Dr. Livingston Farrand, president emeritus of Cornell University, presiding; Dr. Edward S. Godfrey, commissioner of the New York State Health Department; Dr. Arthur W. Booth, chairman of the Board of Trustees of the American Medical Association; Dr. George Baehr, representing the New York Academy of Medicine; Dr. Abel Wolman, president of the American Public Health Association; and Grover A. Whalen, president of the New York World's Fair Corporation.

Representatives of the various professional associations were invited to attend the meeting and Lenna F. Cooper was present as the representative of the American Dietetic Association.

New York World's Fair announces the establishment of the Professional Club in the Medical and Public Health Building at the fair, which will be reserved for the exclusive use of physicians, public health workers, medical societies and other allied professions visiting the fair. Here qualified persons may meet their friends and find a comfortable lounge, checking facilities, rest rooms, stenographic service, telephones and other conveniences of a private club. Among the organizations whose membership cards entitle the owners to use of the club are the American Dental Association, American Dietetic Association, American Hospital Association, American Medical Association, American Nurses Association, American Public Health Association, and United States Public Health Service. Professional members pay no dues, but there is a small certification charge to cover the cost of validating credentials.

The Public Affairs Committee at 30 Rockefeller Plaza, New York City, announces the publication of a pamphlet entitled "This Problem of Food" by Dr. Jennie I. Rowntree, professor of home economics, University of Washington, copies of which may be obtained at $7.00 per hundred or less in large quantities, or the material will be included by subscription to the pamphlet series at $3.00 per 36 issues. The pamphlet is particularly recommended for its simplicity of presentation and for its interesting and graphic illustrations and charts.

Dietitians on the Radio. Sister Mary St. Clara of Clark College, Dubuque, Iowa, has been presenting a weekly radio feature in which she discusses food fads and fallacies and such subjects as "What Foods Do School Boys and Girls Need for Lunch" and "Salads and Salad Dressings". In connection with her work, she uses a modern kitchen built by Farley and Loetscher Co. with electrical equipment given by the Interstate Power Co., in which she presents her demonstration and lecture. Two senior home economics students do the demonstrating while Sister Mary St. Clara broadcasts. The meetings are attended by an audience of around 40 or 50 in addition to the radio audience.

Bureau of Industrial Service, Inc., 285 Madison Ave., New York City, in a recently released job survey states that employment prospects for college graduates are now better than ever before during the last two years. Three-quarters of the June graduates from 193 American colleges, universities, technical and normal schools, it is said, will be in permanent positions before summer ends.

Business administration, enrollment in which is being limited, ranked third with 82 mentions. Other fields and their mentions follow: salesmanship 76, medicine 24, law 20, accounting 18, agriculture 15, insurance 13, home economics 13, journalism 11, secretarial 9, ministry 7, social service 6, government services 5, laboratory technicians 5, veterinarians 3, pharmacists 3, and dieticians [sic], librarians, recreational directors and architects, each two.

A New Publishing House in the Fields of Science and Technology. The establishment of the Collegiate Press, Inc. of Iowa State College, has been recently announced. This is a new publishing outlet for writings of book length in the fields of science and technology. This press will not restrict its publication interests to the Iowa State College alone but welcomes all contributions in these fields.

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Only the water has been taken out and nothing has been added—no sugars, acids, preservatives or adulterants. Carries the Acceptance Label of the Council on Foods of the American Medical Association.

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By using SUNFILLED Pure Concentrated Citrus Juices all you do is add the water and mix. Your day's requirements can be prepared in a very few minutes. Your vessels are sterile —you never touch the product with your hands—you are sure of the juice you serve.

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Dr. C. A. Elvehjem, professor of biochemistry, University of Wisconsin, received the Mead Johnson & Company award at the sixth annual meeting of the American Institute of Nutrition, at Toronto, April 26.

Lenna F. Cooper is the author of a paper entitled "I Want to be a Dietitian" which appeared in the May issue of *Forecast*, in which she evaluated the future for the student of dietetics and the training required.

Lulu G. Graves, honorary president of the American Dietetic Association and formerly consulting dietitian of New York City, is now a resident of Berkeley, California. Her present address is 2605 Haste St., Berkeley, California.

Esther Spaulding of Baraboo, Wisconsin, has been appointed assistant dietitian at Vassar Brothers Hospital, Poughkeepsie, N. Y. Miss Spaulding graduated from Stout Institute, did post-graduate study at University of Wisconsin and completed her professional training at University of Minnesota Hospitals.

Canadian Dietetic Association. Number 1, Volume 1, of the *Journal* of the Canadian Dietetic Association appeared in April under the editorship of Ruth M. Park. It is planned to publish the journal as a quarterly. This first number presents an attractive cover carrying the seal of the association, and the following papers: "Recent Progress in the Study of Vitamins" by David L. Thompson; "The Training of Student Dietitians" by Lenna F. Cooper; and "Giving Personality To Commercial Food Service" by Marie L. Casteen. It also includes the annual reports and proceedings of the Ottawa meeting.

The fourth annual meeting was held at Bigwin Inn, Lake of Bays, Ontario, June 16–17. Delegates from seven of the nine provinces were present.

Before the afternoon session on Friday, a tribute to the late Annie L. Laird was read by Violet M. Ryley and a two-minute silence was observed in her memory.

Speakers included Dr. Lydia Roberts, University of Chicago; Dr. Jessie B. Brodie, University of Toronto; Dr. W. S. Caldwell, assistant director, Ontario Division, Canadian Red Cross Society; Dr. R. G. Ellis, University of Toronto; Dr. J. Wallace Graham, Toronto General Hospital; Violet M. Ryley, T. Eaton Co., Toronto; and Mildred S. Thomson, Verdun Protestant Hospital, Montreal.

One of the interesting social events was an afternoon tea on Saturday when Muriel Ransom related some of the interesting features of the luncheon for Their Majesties, King George and Queen Elizabeth, at Hart House, University of Toronto, May 22. On Sunday morning the members of the association were entertained on a two-hour boat trip around the Lake of Bays as guests of Mr. Shaw and the Bigwin Company.

The following officers were elected: honorary president, Violet M. Ryley; honorary vice-president, Doris Runciman; president, Alice Stickwood; president-elect, Grace Sharpe; directors, Mrs. C. D. Reid, Irene Carpenter, Laura Pepper, Muriel Eames, Charlotte Large and Laura Jamieson.

Delaware Dietetic Association met on March 7 at the Homeopathic Hospital in Wilmington. Lila Hainer, assistant professor of home economics, Drexel Institute of Technology, Philadelphia, talked on the training of the dietitian. On March 20 at the Delaware Hospital, Wilmington, Dr. Elda Robb, assistant professor of home economics, Temple University, Philadelphia, discussed "Child Development". The April meeting was a trip through the new Brown Vocational School, Wilmington, including the food department. Mrs. Deborah Spencer Hill, director of home economics and cafeteria manager, spoke on the work being done there. On May 15, at the Wilmington General Hospital, Marjorie M. Heseltine, Children's Bureau, United States Department of Labor, Washington, D. C. discussed "The Nutritionist in Public Health Work". In June a dinner meeting was held at the DuVal Tea Room in Dover. Officers for 1939–1940 were elected as follows: president, Dorothy Hull, Homeopathic Hospital, Wilmington; vice-president, Charlotte Spencer, State Board of Health, Dover; secretary, Anna Gaventa, the Delaware Hospital, Wilmington; and treasurer, Eleanor McKnight, Milford Hospital, Milford. The association was accepted for affiliation in the A. D. A. as of June 1939.

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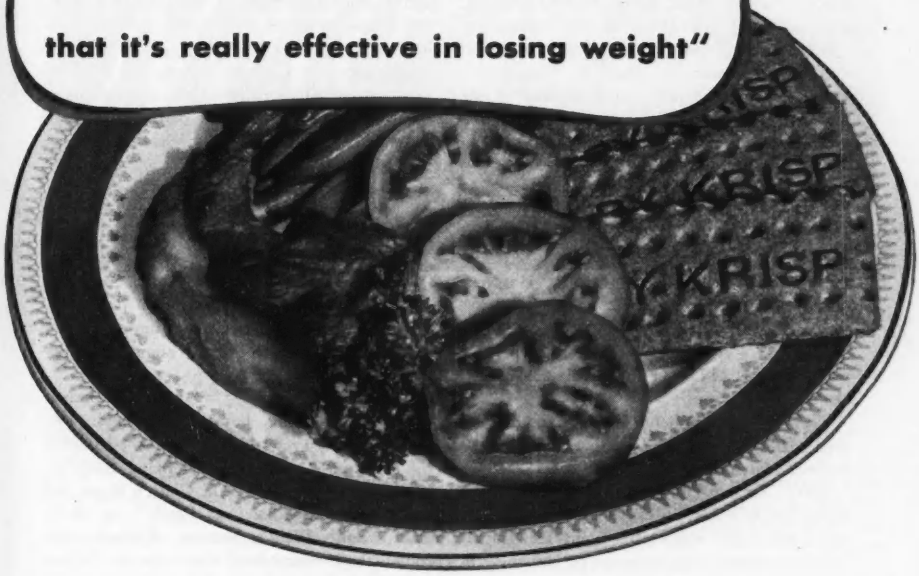
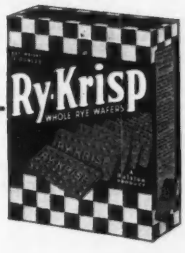
SO EASY FOR PATIENTS TO FOLLOW
that it's really effective in losing weight"



Every mail brings enthusiastic letters from doctors and requests for copies of this simplified Low Calorie Diet. And no wonder! With this Diet, your patient can choose her own menus—eat the food she likes—and lose about ¼ *pound a day,* safely and sanely.

Clearly and simply, the Diet states the foods and the quantities to be eaten at each meal. You'll be amazed at the *variety* it offers. That's one secret of its success. Another is Ry-Krisp. Each wafer contains only 20 calories and yet is high in appetite appeal. Its delicious flavor naturally encourages close adherence to the Diet.

Each copy provides space for your patient's name, date, your personal instructions and signature, and chart for recording weight lost. Copies of this unusually successful Low Calorie Diet, and samples of Ry-Krisp are yours, free, for the asking. Simply use the coupon below.



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District of Columbia Dietetic Association. Mrs. Beula Becker Marble, president-elect of the A. D. A., was the speaker at the May meeting. The association's annual June breakfast was held at the Rixie Mansions on the Potomac in Virginia.

Among those planning to attend the Los Angeles meeting of the A. D. A. in August are the district president, Helen Burns, chief dietitian, Walter Reed Hospital; the chairman of hospitality, Rowena Roberts, Sibley Hospital; the delegate from the District, Eva Marks, Gallinger Hospital; and the chairman of the national Administration Section, Grace Bulman, chief dietitian, Veterans Administration, Washington, D. C.

Louisville Dietetic Association. The May meeting was held in the club room at Bowman Field, Louisville airport, Mrs. Bertha Hahn, dietitian at the Kentucky Baptist Hospital, acting as hostess. Both Mrs. Hahn and her husband are licensed pilots and conducted the members on a visit to the radio room, inspecting weather maps and other equipment and behind the scenes activities.

Thelma Bretz, formerly dietitian at the Children's Hospital, Louisiana, is now hostess at the Sulbach Hotel.

Mary Temple, formerly dietitian at Fort Knox, succeeded Helen Engelbrecht as dietitian at St. Anthony's Hospital in Louisville, July 1. Miss Engelbrecht has returned to her home in St. Louis.

Mary Hood Gillespie, county home demonstration agent, Burlington, spent her summer vacation in Europe.

Maryland Dietetic Association. The Diet Therapy Section sponsored a lecture on "Diabetes and Carbohydrate Metabolism" by Dr. John Eager Howard of the Johns Hopkins Hospital staff on April 13.

The Community Education Section closed their series of eight radio broadcasts for the year on April 6. The last one of the series, "Planning the Menus for the Family" was presented by Mrs. Ethel Gardner, nutritionist, Department of Public Welfare. Requests for over two hundred copies of these broadcasts indicate the growing interest of the public in receiving correct nutritional information.

The annual state meeting of the Maryland Dietetic Association was held April 21–22 at the Belvedere Hotel, Baltimore. The meeting opened with a banquet on Friday evening at which Dr. Hornell Hart, professor of sociology, Duke University, was the principal speaker. His subject, "Science and the Life Abundant" stressed the importance of creativeness as the keynote to happy living. Dr. E. V. McCollum, Johns Hopkins School of Hygiene, Dr. Ivan McDougle, professor of sociology, Goucher College, and Gertrude F. Allison, Scholls' Cafe, Washington, D. C., were guests. E. M. Geraghty, Union Memorial Hospital, acted as toastmistress. The Saturday morning session displayed unusual "Culinary Gadgets," arranged by Alma Bering and staff of the Sheppard and Enoch Pratt Hospital. "Unusual Foods" were assembled by Alfreda Taylor, Hopper McGaw and Co.; "Herbs", by Anna Trentham, University of Maryland Extension Department; and "Specialty Foods", by Elizabeth Saunders, Betsy Patterson Specialty Shop, Baltimore. The selections and artistic arrangements of material created much interest among the large number in attendance.

The business meeting with Alma Bering, president, presiding, began with round table discussions. "Professor Quiz" was conducted by Kathleen Lewis, Johns Hopkins Hospital; "Hobbies", by Anne Merkle, Church Home and Infirmary; and "Low Cost Foods", by Violet Lake, Family Welfare Bureau. Following the round table discussions, Gertrude F. Allison addressed the association on "Pleasing the Patron", stressing the importance of satisfied employees in commercial work. The meeting closed with a luncheon at which the chairmen of the round tables summarized the discussions. Short talks were also given by the exhibitors.

At the banquet, members of the association were presented with a booklet summarizing the organization's accomplishments during the year, as submitted by the various committee chairmen. The booklet was compiled by the publicity committee, with Marian Connelly, University Hospital, editor, and E. M. Geraghty and Helen Schmit, assistants.

Alma Bering and Alice Jané were guests of the Philadelphia Dietetic Association at the annual banquet, April 25.

Mrs. Beula Becker Marble, president-elect of the American Dietetic Association, was guest of the association at the last meeting for the

INCORPORATES SOUND DEVELOPMENTS IN INFANT NUTRITION . . .

Medical and nutritional authorities aided by intensive research have directed the development of the new Gerber Cereal Food. Sound developments in infant nutrition have been incorporated in this new product which is made by the makers of Gerber's Baby Foods — specialists in baby foods for many years. The cereal has been accepted by the Council on Foods of the American Medical Association.

1. Nourishing. Supplies carbohydrates and protein; and is enriched with those vitamins and minerals which are frequently deficient in the infant diet. The enriching substances, wheat germ and yeast, contain the natural "vitamin B complex" including vitamin B_1 (thiamin) and vitamin G (riboflavin). The infant requires thiamin in amounts varying between 80 and 150 I.U. daily. An average serving of Gerber's Cereal Food which is ½ oz., combined with 4 to 6 oz. of milk, has not less than 45 to 50 I.U. of Vitamin B_1.

This same serving with 4 oz. of milk supplies also 130 calories, 5.5 gm. protein and 4.5 mg. of soluble iron. Accepting the infant's requirement for iron as 5 mg. daily, the iron from this serving is highly significant.

2. Digestible. Gelatinization of the starch cells accomplished by thorough cooking renders this Cereal Food readily digestible. Combined with milk, it is low-fiber food. The crude fiber as served is only approximately 0.1 to 0.14%.

3. Palatable. Not only has the cereal component been selected to provide a pleasant, mild flavor, but a special cooking process is used which further improves palatability. Dextrinization of the starch content is prevented so that the cereal does not become sticky or adhesive when mixed with milk or water.

4. Economical. In ½ lb. packages at grocer's and druggist's.

5. Convenient. Dry, Pre-Cooked, it is a smooth, fine-textured cereal when mixed with milk.

Visit the Gerber exhibit in the Medical and Professional Club, Public Health Building at the New York World's Fair.

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current year, May 10. Alma Bering entertained Mrs. Marble and members of the executive committee at dinner at the Sheppard and Enoch Pratt Hospital. A business meeting followed at the Baltimore City Hospital, with Helen Schmit and staff as hostesses, and Mrs. Marble as speaker. She emphasized the need for each dietitian to be alert to all new findings in nutrition and associated sciences to insure high standards in the future. The professional rating and demand for the dietitian of tomorrow will be based on her adequacy in fulfilling the needs of today. Following the address, officers for 1939–1940 were elected as follows: Alma Bering, reelected president; Anne Merkle, Church Home, vice-president; Ruth Graham, reelected secretary; and Alice Jané, reelected treasurer.

Alma Bering, Josephine Anderson, and Helen Schmit attended the Pennsylvania Dietetic Association meeting, May 13, Hershey, Pennsylvania.

Ruth Aldrich resigned her position at the Baltimore City Hospitals to be married June 17 to Mr. Eugene Serdynsky of the Dow Chemical Company, Midland, Michigan. She was replaced by Elizabeth Peach of Woodstock, Maryland.

Ernestine Becker was the guest speaker at the Pennsylvania Dietetic Association luncheon on May 13. Her subject was "Recent Advances in Nutrition".

Announcement has been made of the engagement of Jessie F. Muncaster of Derwood, Maryland, to Dr. William W. Richardson of Mercer, Pa. Miss Muncaster, formerly dietitian at Mercer Sanitorium, has been manager of the Elementary School Cafeteria in Catonsville, Md., since January 1938.

E. M. Geraghty of the Union Memorial Hospital has been invited to be one of the visiting faculty in charge of the lectures and seminars on organization and management of food service under the auspices of the Annual Institute for Hospital Administrators, to be held at the University of Chicago September 5 to 16.

Jo Anderson of Sheppard Pratt Hospital is taking a Mediterranean cruise and before returning will visit the American Hospital in Paris.

Alice Jané of Spring Grove Hospital, Catonsville, Maryland, resigned on July 1 to accept the position as dietitian at The Home for Incurables.

Plans are being completed for the Fifth Annual Conference of Food Service Directors, which will be held at the Lord Baltimore Hotel in November. A very interesting program has been prepared which should be of especial interest to school lunchroom directors. Particular emphasis is being given to smaller schools and those in rural areas.

Members who are planning to attend the Los Angeles meeting of the American Dietetic Association are: Alma Bering, Sheppard Pratt Hospital; Emma Childs, Goucher College; Marjorie Wood, Marine Hospital; and Anne Merkle, The Church Home and Infirmary.

Massachusetts Dietetic Association. The annual spring meeting was held at Wiggins Tavern, Northampton. At the morning session with Dorothy Duckles, presiding, the following appeared on the program: May E. Foley, extension nutritionist, Massachusetts State College, "A Quarter Century of Nutrition Extension"; and Clive M. McCay, Ph.D., professor of animal nutrition, Cornell University, "Seven Centuries of Scientific Nutrition".

At the afternoon session with Dr. Helen Mitchell, presiding, speakers were Philip L. Gamble, Ph.D., assistant professor of economics, Massachusetts State College, "Imported Foods on Our Menus"; and Mrs. Beula B. Marble, president-elect of the American Dietetic Association, "Peripheral Cells". This was followed by a question and answer period led by Alice Fenno.

The business meeting was conducted by Gertrude McDonald, president of the state association. Officers for the coming year were elected as follows: president, Dorothy Duckles, Massachusetts General Hospital, Boston; vice-president, Ruth Spencer, Massachusetts General Hospital, Boston; treasurer, Mrs. Helen Wollan, Newton; recording secretary, Marion Woolworth, Children's Hospital, Boston; corresponding secretary, Ruth Buckman, Free Hospital for Women, Brookline; and chairman of the Nominating Committee, Edith Hoadley, Salem Hospital, Salem.

High tea was served in the Empire Room after the lectures and members had the opportunity of visiting all parts of the quaint old tavern.

Shirley Wells, research dietitian at the Massachusetts General Hospital, has left to take

A low-cost breakfast with a good nutritional balance

A simple and tasty breakfast that has both hunger-staying qualities and several needed minerals and vitamins is National Biscuit Shredded Wheat and milk. As the makers of National Biscuit Shredded Wheat (which is natural unmilled whole wheat, nothing added, nothing removed) we are recommending this in our advertising as a breakfast of good nutritional balance, especially when accompanied with fruit.

Our recommendation is based on the findings of a recent study of our product.

In two of these biscuits, plus a cupful of milk, the following essential nutrients are naturally present:

CARBOHYDRATES. Our product is 77% carbohydrates. Milk has about 5%.

PROTEIN. Our product is 10% protein. Milk has over 3%.

IRON. Our product is an excellent source, with .0034%. Milk has .0002%.

CALCIUM. Our product has .04%. Milk has .12%.

PHOSPHORUS. Our product has an excellent content, .42%. Milk has .09%.

VITAMIN B_1. Approximately 120 Sherman-Chase units in two biscuits. One cupful of milk adds approximately 77 Sherman-Chase units.

VITAMINS A AND G. Our product gives these vitamins in lesser quantities. Milk is rich in both of them.

ENERGY. In two biscuits and one cup of milk are approximately 370 calories.

The addition of berries or fruit, of course, enriches the content of various nutrients, especially vitamins.

Here is an extremely low-cost meal, appetizing to the great majority of normal adults and children, which affords well-rounded nourishment. Unlike highly milled cereals, it goes far toward supplementing certain important and widespread nutritional needs. Also, the appetizing flavor, of which people never seem to tire, can be used to encourage increased intake of milk, which, surveys show, is far below the nutritionally desirable level.

Through more than forty years in millions of homes billions of breakfasts of National Biscuit Shredded Wheat have been enjoyed.

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the position of assistant personnel director at Iowa State College, Ames.

Joan Woodhill, dietitian at Prince Alfred Hospital, Australia, has been visiting in Boston for a few weeks.

Virginia Lovis, therapeutic dietitian at the Baker Memorial, Massachusetts General Hospital, was married on June 24 to Mr. John Parker, 2nd, of Fitzwilliam, New Hampshire.

The following nutritionists from the Massachusetts Department of Public Health are teaching this summer: Mary Spalding, consultant nutritionist for the state, is participating in a course for teachers at Hyannis State Teachers College. Dorothea Nicoll is holding conferences for nurses, home economics teachers and lunchroom managers at the Fitchburg State Teachers College. Dorothy Adolph is assisting her in the conferences with the lunchroom managers. Frederica Beinert is giving an advanced course in nutrition for teachers in home economics and other subjects at Boston University. Sophie Gordon is planning an exhibit on the "Nutritive Value of Foods" as used by the families of Barnstable County in 1639 and 1939. This is to be displayed for the Tercentenary at the Barnstable County Fair, Cape Cod.

Bertha S. Burke has collaborated in Monograph No. 1 in the series of studies from the Center for Research in Child Health and Development at the Harvard University School of Public Health. The title of the monograph, which is published by the Society for Research in Child Development, National Research Council, is "The Center, the Group under Observation, Sources of Information, and Studies in Progress".

Diamond Ballin of India, who has been taking the special graduate course in nutrition at Simmons College this year, gave a short radio broadcast on "India" from Station WIXAL at the University Club in Boston on June 19.

Frances Stern and Elizabeth Barden cooperated with Mrs. Bernice Cohen in her thesis submitted towards the master of science degree at Simmons College, School of Social Work, entitled "Emotions and Food Therapy—a Study".

Mary Pfaffman is re-writing the chapter on vitamins in *Food and Your Body—Talks with Children*.

The nutrition service at the Y. W. C. A., Boston, has proved so successful under the direction of Marjorie Foster that an extension service directed by Mabel Stimpson, formerly of the Nutrition Clinic, New York Hospital, was instituted this spring.

Helen Finkelstein, in cooperation with other members of the staff of the Food Clinic of the Boston Dispensary, has completed a series of photographs of the procedure for the injection of insulin and the Benedict's test, as a means of visual education for the patient.

Barbara Griffin, Connecticut College, '38, is spending three months at the Johns Hopkins Food Clinic during the summer.

Marth Kaplinsky, Amherst, '38, was dietitian at Camp Country Week, Beverly, Mass.

Pearl Williams, Simmons, '38, is serving on the staff of the Food Clinic for the summer months.

Dr. Helen Mitchell of Massachusetts State College spoke on "Facts, Fads and Frauds in Food" at a joint meeting of the Massachusetts Public Health Association and the Western Massachusetts Health Conference, June 5, at Massachusetts State Sanatorium, Westfield.

Dorothea Nicoll, nutritionist with the Massachusetts State Department of Public Health, has been busy with her famous collection of dolls and cook books from all over the world. She took the members of the Eastern Massachusetts Home Economics Association "Around the World in Thirty Minutes" at their annual meeting in May. Her collection was recently exhibited at the Family Information Center of the Jordan Marsh Company, Boston.

Michigan Dietetic Association. A varied and interesting program brought people from all over the state to Harper Hospital in Detroit on May 12, 1939.

In the morning, Mrs. Alene Theisner, president of the Detroit association, presided at a session in which four papers were presented as follows: June Ramsey, director of nursing, Harper Hospital, Detroit, "What the Schools of Nursing Expect from the Dietitian"; Mrs. Gladys Rambler, administrative dietitian, Harper Hospital, "Food Costs and Market Trends"; Mrs. Frances Sanderson, director of home economics, Wayne University, Detroit, "The College Contribution to the Institutional Foods Field"; and Dr. Don Barnes, Harper Hospital, "Investigations in the Study of Rickets".

Following a short business meeting, the dieti-

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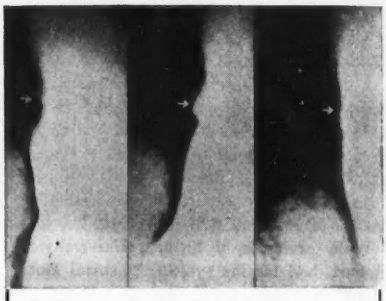

CASE I—FEMALE, 74

Uncomplicated gastric ulcer first demonstrated by Roentgen rays in 1934. Diet and alkalies afforded little relief. Accompanied by loss of weight. Repeated X-ray studies in 1936 and 1937 showed no improvement. She was placed on a diet-gelatine regime in November, 1937. Relief immediate. Gained weight. Roentgen studies in April, 1938 showed no demonstrable ulcer.

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This regime thus eliminates the "alkalosis hazard" attendant upon continued alkali therapy. In discussing the mode of action by which gelatine brings peptic ulcer relief, Windwer and Matzner* speak of the acid-binding properties by which proteins can neutralize acids, and they state that the frequent gelatine feedings "apparently caused more prolonged neutralization of the gastric juice."

PEPTIC ULCER FORMULA

Empty one envelope Knox Gelatine in a glass three-quarters filled with cold water or milk. Let the liquid absorb the gelatine. Then stir briskly and drink immediately before it thickens. Take hourly between feedings for seven doses a day.

*Windwer and Matzner, *Am. Jl. Dig. Dis.* 5:743, 1939.

NOTE: The gelatine used in this study was plain Knox Gelatine (U.S.P.) which assays 85% protein and which should not be confused either with inferior grades of gelatine or with sugar-laden dessert powders, for these latter products will not achieve the desired effects. When you desire pure U.S.P. Gelatine, be sure to specify KNOX. Your hospital can get it on order.

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tians at Harper Hospital conducted their guests through the kitchens of the hospital. This was particularly interesting, since not only the building but the equipment is new and modern in every respect.

At the luncheon meeting, Mayme Lewis, president of the Michigan Dietetic Association, introduced Dr. John Dorsey of the University of Michigan and the Children's Center, Detroit, who addressed the group on the subject, "Medical Psychology and the Dietitian".

Mable MacLachlan, director of dietetics, University Hospital, Ann Arbor, was chairman of the afternoon meeting when the following program was presented: Sophia Halsted, nutrition director, Detroit Department of Health, "Food Purchasing Habits of One Hundred Families"; Frances MacKinnon, Food Clinic, University Hospital, "A Study of Diets in Pregnancy"; Mrs. Lucy Wilson Parsons, School Lunchroom Department, Detroit Public Schools, "The Dietitian in the School Lunchroom"; and Winifred Eliason, Greenfield Cafeterias, Detroit, "The Dietitian in the Commercial Field".

A tea at Wayne University afforded an opportunity for the guests to meet each other and to renew old acquaintances. Florence Bunte of the home economics staff was hostess.

The all-day program closed with a dinner at the Woman's City Club. Mayme Lewis presided and introduced Mr. Russel Barnes, well-known commentator of the Detroit *News*, who discussed "What's Behind the News of Today".

The officers for the following year are: president, Dr. Lillian B. Storms, Gerber Products, Fremont; vice-president, Dr. Jean E. Hawks, Michigan State College, Lansing; secretary, Mary Herbert, Butterworth Hospital, Grand Rapids; and treasurer, Meryl Pickering, St. Mary's Hospital, Detroit.

Nominating Committee members are Grace Clark, Michigan State Hospital, Pontiac; Mary Barber, Kellogg Co., Battle Creek; Helen Hauver, Henry Ford Hospital, Detroit; Gladys Enke, University Hospital, Ann Arbor; and Pauline Bailey, Michigan State Sanatorium, Howell.

Missouri Dietetic Association. The annual meeting was held at the Tiger Hotel, Columbia, April 14–15. Ruth Kahn, president, presided at the annual business meeting, which included the election of officers, and presentation of reports by section chairmen. Ethel Ollis presided at the morning session following, which included greetings from the president and a paper "How Can the Dietitian Serve a Health Department" by Dr. James W. Chapman, director of child hygiene, Missouri State Board of Health.

Bertha Bisbey, University of Missouri, presided at the luncheon with the following program: "Address of Welcome", Florence Harrison, chairman, Department of Home Economics, University of Missouri; "Nutrition Work in China", Estelle Nesbitt, director, Nutrition Division, Bureau of Maternal and Child Health, Indiana State Board of Health.

At the afternoon session with Mrs. Gladys Silkey, St. Louis University, presiding, Bertha Bisbey spoke on "Recent Trends in Nutrition"; and Lute Troutt, director of Dietary Department, University of Indiana Hospitals, discussed "Advancement of Dietetics as a Profession".

At the banquet on Friday evening, Dr. John B. Wolf, professor of history, University of Missouri, had for his subject, "Central Hotel en Flux".

The Saturday morning session, held in Gwynn Hall, University of Missouri, consisted of the following program: "Problems in the Selection of Meats", James E. Comfort, University of Missouri; "Recent Researches on the Nutritional Value of Meat", Anna E. Boller, director, Department of Nutrition, National Live Stock and Meat Board; and "New Ideas in Meat Cookery", Jessie Alice Cline, University of Missouri.

Mrs. Vera Davis presided at the luncheon held at the Tiger Hotel, and Dr. Louis Cohen discussed "The Therapeutics of Over- and Under-Nutrition".

A program of trips to Stephens College, Christian College, and the University of Missouri was an interesting feature of the convention. Approximately sixty were registered at the meeting.

Officers for 1939–1940 are as follows: president, Mrs. Vera Davis, General Hospital, Kansas City; vice president, Margaret West, 4411 N. Newstead, St. Louis; secretary, Grace Zerbolio, Barnes Hospital, St. Louis; treasurer, Fae Buckles, Research Hospital, Kansas City; delegate, Ethel Ollis, Research Hospital; and historian, Marian Keller, St. Joseph. Section chairmen are, Administrative, Zoe Harris, Stephens College, Columbia; Professional Education, Louise Wilkonson, Barnes Hospital; Community Education, Rachel Reed, Kansas

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City Dairy Council; and Diet Therapy, Hilda Hartman, DePaul Hospital, St. Louis.

Montana Dietetic Association. The annual meeting was held May 6 at the Montana Club in Helena.

During luncheon a novelty number was presented by Bobby Welsh, ventriloquist, and his friend "Willy", who gave their impressions of a dietitian.

Dr. Edythe P. Hershey, director of the Child Welfare Department of the State Board of Health, spoke on "Nutrition in Relation to Public Health Service" at the afternoon session. Other speakers were Evelyn Skreen of the Northern Pacific Hospital, Missoula, and Nellie DeKalb, Lewistown, who reported on the American Dietetic Association meeting in Milwaukee.

The following officers were elected for the ensuing year: president, Helen Bennett; vice-president, Henrietta Schneider; secretary, Ada McGinley; treasurer, Mildred Tharp.

An informal social hour at St. Peter's Nurses' Home was the final event of the meeting.

North Carolina Dietetic Association now has a total of 44 members. There were 70 registrations for the 1939 annual meeting in Durham. At this meeting officers were elected as follows: president, Mrs. E. O. Meinung, Salem College, unanimously elected to succeed herself; vice-president, Marian Ball, Meredith College; secretary, Evelyn Gibson, Memorial Hospital, Kinston; treasurer, Helen Lynch, Moore County Hospital, Pinehurst.

The 1940 meeting will be held in Winston-Salem at the time of the Tri-State Dietetic Association meeting.

Oklahoma Dietetic Association. The following officers were elected for 1939–1940: president, Mary A. Barnes, Murray Dining Hall, Stillwater; vice-president, Freda Schroeder Johnson, University Hospital, Oklahoma City; secretary, Josephine McCulley Barr, St. Anthony Hospital, Oklahoma City; and treasurer, Vera Parman, Eastern Oklahoma Hospital, Vinita. Ann Hains, St. Anthony Hospital, will continue to serve as editor. The association has grown considerably since its organization meeting in 1937, at which time 25 attended the meeting. In 1938, 71 were present including paid registrations, guest registrations and active members, and in 1939 there were 70 paid registrations and 38 active members.

The regular meeting of the Oklahoma City Dietetic Association was held April 24. Prior to the meeting Ruth Sperry was hostess at a dinner in the Colonial Room of the Y. W. C. A. given in honor of Adeline Wood. On April 25 Miss Wood was the guest at a luncheon given for her at the University Hospital by J. Marie Melgaard, Mary Wilkinson, Mrs. Freda Johnson and the student dietitians.

Mildred Haas was married to Mr. Shirley Metzger of Kansas City on May 17. Miss Haas, a graduate of the University of Oklahoma, was formerly dietitian at the Western Oklahoma Charity Hospital, Clinton.

Pennsylvania Dietetic Association held its annual meeting at the Hotel Hershey, Hershey, May 11–13. The meeting opened Thursday with an executive luncheon, following which greetings were extended by Phyllis K. Sprague, Pennsylvania State College, president of the association; the president of the Central Dietetic Association; and Mr. Ezra Hershey, who spoke on the history of Hershey Community.

Christine Haupt presided at the afternoon session of the Administration Section, at which a symposium on purchasing of foods was presented as follows: "For the Hershey Estates", Mr. Hosler, Hershey Department Store; "For a State Hospital" Mr. Horace Cooper, steward, Allentown State Hospital; "For a Small Hospital" Lillian F. Hack, St. Christopher's Hospital for Children, Philadelphia. Dr. Paul A. Keeney, Bureau of Health Conservation, discussed "Laws Governing Food Production as Enforced by the Department of Health".

Round table discussion groups met for dinner at the Community Inn Dining Room, with the following topics: administration, community education, diet therapy, and professional education. Later the annual business meeting was held, Miss Sprague presiding.

On Friday morning the Professional Education Section, with Hester Griffin, Mount Mercy College, Pittsburgh, presiding, presented the following: "Committee Reports; "Professional Security", Beula Becker Marble, president-elect, American Dietetic Association; and under the general heading of "Nutrition in the Nursing Curriculum", Elizabeth A. Fitzpatrick, assistant director of nursing, Mount Sinai Hospital, Phil-

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adelphia, discussed "Nursing Profession Viewpoint"; and Henderika J. Rynbergen, instructor, New York Hospital, spoke on "Dietetic Profession Viewpoint".

Dr. Elda Robb, Temple University, presided at the afternoon session of the Community Education Section, with the following program: "Cost of Living in Pennsylvania", Mr. Emmett Welch, director of research and statistics, Department of Public Assistance, Harrisburg; "Progress in Public School Nutrition Studies", Dr. Pauline Beery Mack, director of home economics research, Pennsylvania State College.

At the annual banquet on Friday evening the Rev. Finley Keech spoke on "Lines and Felines".

On Saturday morning Alene Ness, Shadyside Hospital, Pittsburgh, presided at the meeting of the Diet Therapy Section with the following program: Under the general heading of "Diabetes", Josephine Weagley, Children's Hospital, Pittsburgh, discussed "Purpose, Function and Methods Used in Care of Diabetic Children"; Miss Gordon, Homeopathic Hospital, Camden, N. J., spoke on "Diabetic Children's Camp"; and Miss Ness, assisted by Mary Louise Clippinger, presented a "Questionnaire on Diabetes". Under the subject "Methods Used in Teaching Student Nurses to Correlate Class Room and Diet Kitchen Instruction", Clara McCord, ward dietitian, Pennsylvania Hospital, Philadelphia, spoke on "Ward Food Service and Conference"; and Martha E. Tarbox, food clinic dietitian, Pennsylvania Hospital, Philadelphia, discussed "In the Food Clinic". The final presentation consisted of a "Résumé of Vitamin Research with an Assay of the Vitamin Content of the General Hospital Diet" by Miss Ness.

At the luncheon following, with Marie H. O'Hora, president-elect, presiding, J. Ernestine Becker, associate in biochemistry, School of Hygiene and Public Health, The Johns Hopkins University, discussed "Recent Advances in Experimental Nutrition".

Among the interesting features of the meeting were the various trips, including inspection of the Hershey Estates and candy factory, and trips to Harrisburg, the capital of the state, and to Harrisburg, Polyclinic and Harrisburg State Hospitals.

Rhode Island Dietetic Association held seven meetings during the year. New members are Anna Frieberg, State Infirmary, Howard; and Ruth Shapleigh, Rhode Island Hospital, Providence.

The February meeting was held at the Homeopathic Hospital. Mary Robertson of the Massachusetts Memorial Hospital spoke on "Large Quantity Purchasing". In March the association met at the Hearthstone House for a dinner meeting. Belle Pepper, owner and manager of the Hearthstone, discussed the problems to be met when catering to the public. In April a meeting was held at the Nurses' Home of the St. Joseph's Hospital. Dorothy Duckles, therapeutic dietitian at the Massachusetts General Hospital, spoke on "Recent Developments in the Field of Diet Therapy". In May a joint meeting was held with the Rhode Island Nutrition Association at the conference rooms of the Family Welfare Society. The guest speaker was Dorothea Nicolls, nutritionist with the Division of Child Hygiene, Massachusetts Department of Health. Miss Nicolls in her talk on "Food Fads and How to Meet Them" advised nutritionists to keep up with recent developments in nutrition and to check carefully the source of any new discoveries being published. Frances Stern, director, and Marjorie Foster of the staff of the Food Clinic of the Boston Dispensary, who have been cooperating with the Health Education Department of the Boston Y. W. C. A., discussed methods used in taking care of dietary cases referred by the examining doctor. Miss Stern enlarged on similar methods that could be used within the Rhode Island home-making groups.

The annual meeting was held June 8, preceding dinner at the Providence Plantations Club, with twelve members present. It was voted to continue to accept the refund for dues from the American Dietetic Association. Eleanor Wells was elected delegate to the A. D. A. meeting in Los Angeles. A contribution of $15.00 was voted to the Community Fund. The nominating committee reported the following officers for the coming year: president, Eleanor Wells; vice-president, Doris Vickere; secretary, Ruth Fitch; treasurer, Susanne Elwell; and nominating committee, Helen Taylor, chairman; Florence Case and Florence Miller. Miss Wells appointed Mrs. Catherine Heilmann as program and publicity chairman. After the business meeting and dinner, Mrs. Beula Becker Marble, president-elect of the A. D. A., spoke on "Contributions of the Dietitian to Her Profession".

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Ruth Shapleigh, graduate of the University of New Hampshire, and the student course of the University of Pennsylvania Hospital, is now on the staff of the Rhode Island Hospital.

Tri-State Dietitians Meet. At the tenth annual Tri-State Hospital Assembly held May 3–5, 1939, at the Stevens Hotel, Chicago, the Wisconsin, Illinois, and Indiana Dietetic Associations, with the Michigan Dietetic Association as a guest organization, participated in the three-day program.

General sessions were held each morning and group conferences in the afternoon. Helen Schuller Miller, Indiana University Medical Center, Indianapolis, program chairman, presided at the first conference. Raymond W. McNealy, M.D., associate professor of surgery, Northwestern University, Evanston, spoke on "Vitamin Deficiency Diseases"; and J. B. H. Martin, administrator, Indiana University Medical Center, Indianapolis, "The Determination of the Raw Food Cost."

Lucile Bates, Cook County Hospital, Chicago, presided at the second conference. Leon Unger, M.D., assistant professor of medicine, Northwestern University Medical School, Evanston, spoke on "Food Allergy"; and Mary M. Harrington, Harper Hospital, Detroit, "The Pay Cafeteria."

Ada B. Lothe, Milwaukee County Institutions, Wauwatosa, led the panel round table conference on food service.

Nell Clausen, Milwaukee Children's Hospital, Milwaukee, presided at the banquet. James Wright Lawrie, Ph.D., chemist, Milwaukee, spoke on "A Story of Vitamin Research." The decorations at the banquet suggested the various means of getting to Los Angeles for the A. D. A. meeting in August.

The American Dietetic Association's exhibit was part of the educational exhibits of the assembly. Included were large maps of the states of the three associations—Wisconsin, Illinois and Indiana—with the location of members of the American Dietetic Association and state associations indicated.

At the business session, Ella Eck, University of Chicago Clinics, was elected general chairman, and Doris Johnson, Wisconsin State Sanatorium, Statesan, recording secretary for the next year.

Virginia Dietetic Association, at its annual meeting in Roanoke, April 20–22, elected the following officers: president, Bernice R. Varner, Madison College, Harrisonburg; vice-president, Helen Roll Robertson, Johnston-Willis Hospital, Richmond; secretary, Ruby Lake, Pine Camp Hospital, Richmond; and treasurer, Margaret Fitzhugh, director of School Cafeterias, Richmond.

The section chairman are: Administration, Clara G. Turner, Madison College, Harrisonburg; Diet Therapy, Kathryn Heitshu, Medical College of Virginia, Richmond; Community Education, Sally Linkous Kurka, Nutritionist, Roanoke County Red Cross; and Professional Education, Aileen Brown, Medical College of Virginia.

A joint meeting of the old and new executive committees was held May 20 in Richmond, at which time business was transacted and plans for the coming year discussed.

Elizabeth Burruss, treasurer of the state association for the past year has accepted a position as relief dietitian at the New York Hospital.

Aileen Brown, state representative to the House of Delegates; Gertrude Drinker, Richmond Dairy Council; Lois Watts, Grace Hospital; and Bertha Jenkins, Richmond Dairy Company, as well as others throughout the state, are planning to attend the A. D. A. meeting in Los Angeles.

Wisconsin Dietetic Association. On April 25, the Intra-City Home Economics Groups, of which the Milwaukee Dietetic Association is a member, met for dinner at the Y. W. C. A. Joseph C. Eliff, western manager of the *Saturday Evening Post* was the speaker.

Friends and former students of Susan F. West attended a dinner at the University Club in honor of Miss West's twenty-fifth year as director of home economics at Milwaukee-Downer College.

The association was hostess to the Indiana and Illinois Dietetic Associations at a dinner at the Tri-State Hospital Assembly, May 5. The following Wisconsin dietitians attended: Ada Lothe, Nell Clausen, Ethel Keating, Frances Kelly, Grace Clark, Katherine Lees, Magna Werra, Doris Johnson, Lillian O. Fried, Ruth Robertson, Alice Sylvester, and Dorothy Hathaway.

Public health nurses held a symposium at the

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Matthew Keenan Health Center, May 1, to celebrate Child Health Week. The following dietitians participated in the program: Ada Lothe, Milwaukee County Institutions, "The Influence of Economic Levels on the Nutrition of the Child"; Hedwig Poehler, Milwaukee Health Department, "The Child at School"; Nell Clausen, Milwaukee Children's Hospital, "The Sick Child"; and Helen DuChene, consultant, "Nutrition Questions Asked by Public Health Nurses."

The Milwaukee Dietetic Association held its last meeting of the year at the Matthew Keenan Health Center with Hedwig Poehler, Jeanette Stewart, Milwaukee *Journal*, and Pearl Hunkel as hostesses. Following the dinner, Anna Jacobs, superintendent of the Milwaukee Public Health Nurses, presented an outline of the work done at the center. Dr. L. A. Gerlach showed an interesting motion picture developed in the Milwaukee Public Schools in relation to diet and dental caries.

The new officers of the Milwaukee Dietetic Association are: president, Grace Clark, Milwaukee County Hospital, Wauwatosa; president-elect, Dorothy Belknap, Milwaukee County Dispensary; secretary, Magna Werra, Milwaukee Children's Hospital; and treasurer, Frances Kelly, Veterans Administration, Wood.

Bernice Overton, formerly at St. Joseph's Hospital, has accepted a position at Charity Hospital, New Orleans, La.

Vivian Testa, who had her student training at St. Mary's Hospital, Rochester, Minnesota, is taking Miss Overton's place.

Helen Du Chene, formerly at St. Joseph's Hospital, has established a consultant service at 207 E. Michigan St., Milwaukee.

Colette Gingrass has resigned her position at Milwaukee County Hospital.

The members of the Milwaukee Dietetic Association were guests of the Madison Dietetic Association at a picnic June 12.

The new amphitheater was dedicated at the Milwaukee Children's Hospital May 22. The speakers were Dr. Rock Sleyster, president of the American Medical Association, and Dr. A. Graeme Mitchell, professor of pediatrics at the University of Indiana.

Eleanor Neesvig of the Madison Packing Company and Isabel Reed Palm of Baron's Tea Room, Madison, have recently joined the Wisconsin Dietetic Association.

The Home Economics Women in Business were recent guests of Janet Schneider, home service director of the West Bend Aluminum Company.

Dr. MacClelland Shellmann, husband of Esther Deppe Shellmann, formerly dietitian at Milwaukee County Dispensary, died in New York City May 5.

News from Advertisers and Exhibitors. Marietta Eichelberger, director of nutrition service, *Evaporated Milk Association*, Chicago, announces the distribution of a revised edition of their helpful publication, "Feeding a Family at Low Cost", which includes a week's market order for a family of five; a condensed summary of the essentials for good nutrition; suggestions for economical buying; suggested menus for the week; and minimum food requirements. The booklet shows how evaporated milk may be used in the low income family for drinking, food preparation and infant feeding. By its use, milk, the most important protective food, may be included with the least strain upon the budget. Copies are available upon request at the association's headquarters, 307 North Michigan Ave., Chicago. Another excellent publication of the association is entitled "Quantity Recipes for Quality Foods". The booklet contains 198 carefully tested recipes, for the most part standardized to 50 servings. Prepared by experts in the field, these recipes should be of great assistance to those in charge of school lunches, hospital dietary departments, camps and other organizations concerned with large group feeding. The booklet is fully indexed.

Under the direction of Mary Dahnke of the Educational Department, *Kraft Phenix Cheese Corporation*, Chicago, an illustrated booklet has been prepared for distribution entitled "The Romance of Cheese". Its history is detailed from 2000 B.C. down to the present day. Illustrations detail the manufacturing of cheese and its appearance as the final product on the market. Included are descriptions of the many types of cheese available. A table gives the composition of several varieties of cheese.

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4 thin wedges sweet red-skinned apple (unpeeled)
4 half slices peeled orange
1 ripe banana*, sliced
Salad greens
2 or 3 berries

**Ripe banana... yellow peel flecked with brown*

Cut unpeeled apple lengthwise into thin wedges. Slice a peeled orange crosswise and cut slices into halves. Arrange 3 rows of fruit, side by side, on a salad plate, using sliced bananas for the two outside rows. For one end of the center row, use the four apple wedges, placed so they overlap with the red skin toward the outside. Use the 4 orange slices for the other end of the center row, placed so they overlap with the curved side of the slice toward the outside. Garnish the center with greens and berries. Serve with a sweet or tart dressing.

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of directors. Mr. Robinson has been connected with the "Wyandotte" organization in a sales and executive capacity for twenty-two years and for the past ten years as general manager. Mr. Torrey likewise has had "Wyandotte" sales experience and has been actively connected with the organization for six years. "Wyandotte" products and the "Wyandotte" brand have been marketed in North America since May 1898. The dairy, laundry and brewing industries were the first customers. In the intervening years, the use of these products has spread to every known trade and industry, including the home, and to more than 38 export countries.

Easy Recipes Using Canned Foods is now available from the Service Kitchen of the *National Canners Association* and includes a number of excellent recipes designed for the attractive preparation of canned foods.

Easy-to-fix Pablum recipes and samples are available on request from *Mead Johnson & Company*, Evansville, Ind. Vacations are too often a vacation from protective foods. For optimum benefits a vacation should furnish optimum nutrition as well as relaxation, yet actually this is the time when many persons go on a spree of refined carbohydrates. Pablum is a food that "goes good" on camping trips and at the same time supplies an abundance of calcium, phosphorus, iron, and vitamins B and G. It can be prepared in a minute, *without cooking*, as a breakfast dish or used as a flour to increase the mineral and vitamin values of staple recipes. Packed dry, Pablum is light to carry, requires no refrigeration.

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CORN	Quaker Yellow Corn Meal, Quaker White Corn Meal, Quaker Pearl Hominy, Quaker F. S. Granulated Hominy Grits.
BARLEY	Scotch Brand Pearled Barley.
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Because the vitamin C content of fresh fruits and vegetables varies widely with climate, species, length of season and shipping and storage methods, dietitians have long been faced with the problem of supplying sufficient vitamin C to meet daily requirements at low cost.

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The vitamin C content and caloric value of V-C-B is standardized and constant—1000 International Units of vitamin C and 50 calories per ½ ounce—equivalent to about 4 ounces of fresh orange juice. Dissolved in 4 ounces of cold water, ½ ounce of V-C-B makes a pleasant, fruity beverage furnishing the necessary amount of vitamin C to meet the daily requirement. V-C-B may also be combined with other fruit juices, milk, ginger ale or charged water and used as a refreshing beverage in Liquid Diets, Restricted Diets, High Carbohydrate Diets and Forcing Fluids.

Test mixtures of 50% Vitamin C Beverage and 50% fresh orange juice were kept in a refrigerator 24 hours. Fresh fruit flavor was retained and only 5% of total vitamin C content was lost. Think of the saving in time and confusion alone that V-C-B affords by allowing fruit juices to be squeezed and stored in the refrigerator at night instead of during the early morning breakfast rush!

You are invited to send for a FREE 3½ ounce sample of V-C-B (makes 1 quart of Vitamin C Beverage). Taste it—alone or combined with other fruit juices! Compare the cost of $0.016 for 50 mgm. of vitamin C in V-C-B to that of 50 mgm. of vitamin C in fresh fruits and vegetables. Fill out and mail the coupon now!

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Please send free of charge 3½ ounce sample of V-C-B (makes 1 quart of Vitamin C Beverage)

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WHO'S WHO IN THIS ISSUE

Olaf Mickelsen received the B.S. degree from Rutgers University in 1935 and the Ph.D. degree from the University of Wisconsin in 1939. **Harry A. Waisman** graduated from the University of Wisconsin with the B.S. degree in 1935 and the Ph.D. degree in 1939. Both did their graduate work under Dr. C. A. Elvehjem. For the past three years their main interest has been an attempt to determine the water soluble vitamins in meat and meat products. **C. A. Elvehjem,** Ph.D., was noted under this section for January 1939.

Paul Reznikoff, M.D., is assistant professor of clinical medicine, Cornell University Medical College; visiting physician, Bellevue Hospital; associate attending physician, New York Hospital; and consulting physician, Hackensack Hospital. Dr. Reznikoff has written extensively regarding lead poisoning and other medical-industrial diseases, hematology, and medical education.

Irene S. Hall received the Ph.D. degree in chemistry at Cornell University. Dr. Hall formerly taught at the University of California and Oregon State College in the Department of Home Economics. With Dr. Agnes Fay Morgan, she is co-author of *Experimental Food Study*. She is a member of the American Chemical Society, the American Home Economics Association, and the American Association for the Advancement of Science. **Calvin S. Hall** received the Ph.D. degree in psychology from the University of California. He has had teaching experience in the Universities of California and Oregon and is now on the faculty of Western Reserve University as chairman of the Division of Psychology. He is a member of the American Psychological Association and the American Association for the Advancement of Science.

Donald A. Laird, psychologist, received the Ph.D. degree from the State University of Iowa. Dr. Laird has taught at the Universities of Colgate, Iowa, Northwestern, Wyoming, and Yale. After fourteen years as director of the psychological laboratories at Colgate University, Dr. Laird early in 1939 transferred to Philadelphia as director of the newly established Ayer Foundation for Consumer Analysis. He is a fellow of the American Association for the Advancement of Science and the Association of Consulting Psychologists. Dr. Laird is the author of many papers on the place of psychology in the selection and management of the personnel in industry. One such appeared in this JOURNAL for January 1936. **William J. Breen** is a graduate of the Worcester Polytechnic Institute. For the past few years he has been with the firm of N. W. Ayer & Son.

M. Luella Gardner is a graduate of the Illinois Training School for Nurses, Chicago. Following her graduation she received the Ph.B. degree from the University of Chicago where she has also taken graduate work in education. Miss Gardner was formerly instructor in surgical nursing at the Cook County School of Nursing, Chicago, and since 1936 she has been instructor in nursing education at the School of Nursing, University of Nebraska. Miss Gardner is president of the Nebraska League of Nursing Education.

Fern W. Gleiser, head of the Department of Institution Management, Iowa State College, Ames, was a contributor to this JOURNAL for November 1938, and was noted under this section for that issue.

Edith M. Shapcott graduated in home economics from the Colorado College of Education. For three years she studied at Columbia University and Teachers College, specializing in chemistry and nutrition. Miss Shapcott received her student dietitian training at the Massachusetts General Hospital. She was formerly dietitian at the Massachusetts General and St. Luke's Hospital, New York City, and the Physiatric Institute for Diabetics, Morristown, N. J. She has had experience in nutrition work in schools and with the Emergency Relief Bureau, New York City. At present she is nutrition consultant with the Visiting Nurse Association of Brooklyn, N. Y.